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AMIGA WORLD

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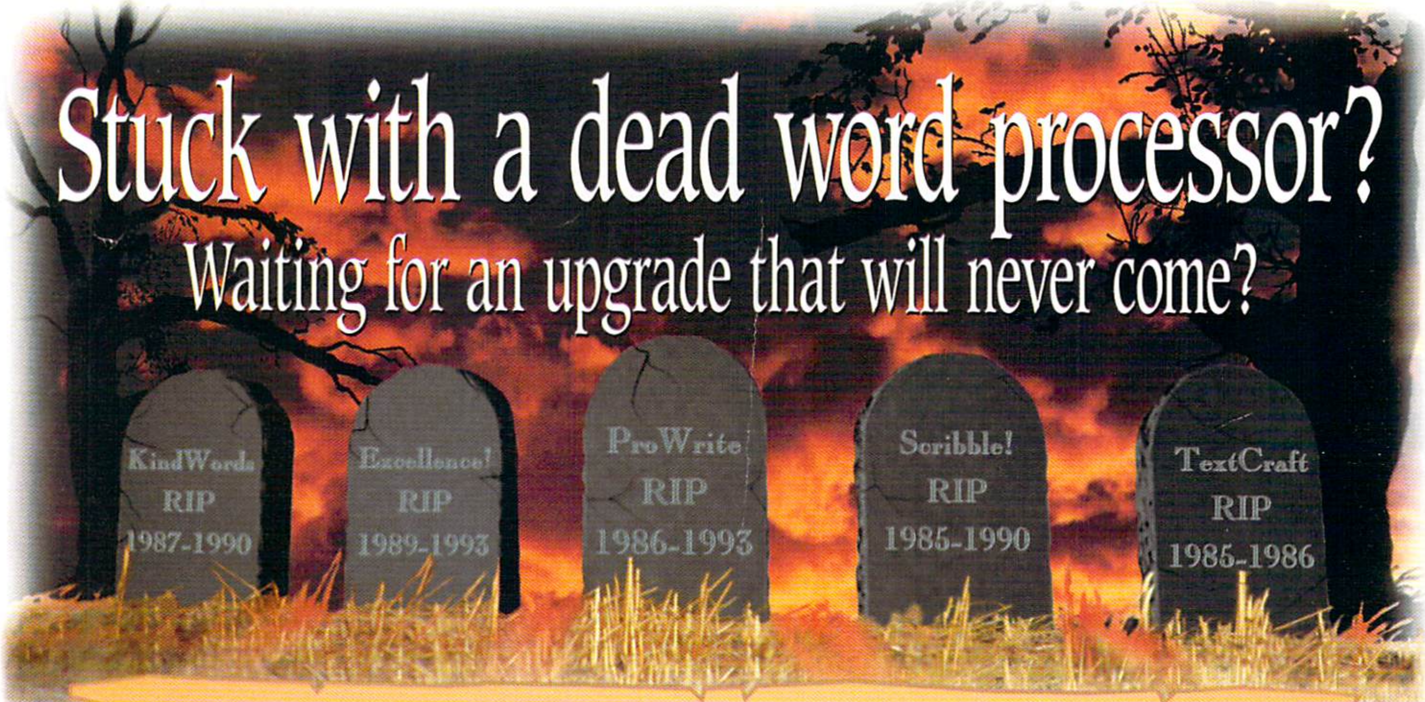
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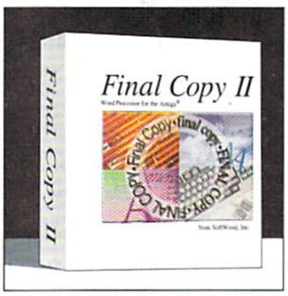
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- **Imagine 3.0 Magic**
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Wired For Sound!
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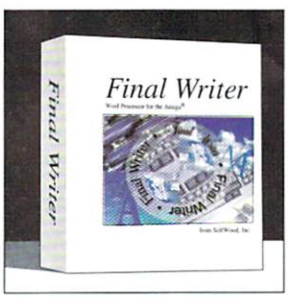
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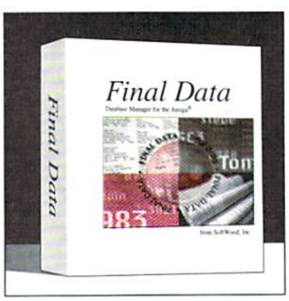
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Release 2. "Readers' Choice Award 1993", Amazing Computing; "Award '93 - Best Software Product", Amiga Plus (Germany), "Product of the Year 1993", Amiga Magazine (Germany). What more can we say? This is the most popular and most used word processor on the Amiga today. It features a 110,000 word speller, 1.4 million word thesaurus; auto-hyphenation; search and replace; tab stops; adjustable margins; word and sentence counts; paragraph sorting; on-screen math; ARexx port; style sheets; drawing tools; imported IFF graphics; master pages; Compugraphic, Type-1, and NimbusQ outline font support; 30 outline fonts; and the best printing possible on any Workbench supported printer. System requirements: 1 megabyte of RAM, 2 floppy drives, and Workbench 1.3 or higher.



New Release 3. "...Final Writer is arguably the best word processor yet released for the Amiga.", Amiga World, March 1994. "...Final Writer is the top Amiga word processor to rival even the Mac and PC heavyweights.", CU Amiga (England), January 1994. Final Writer has all of Final Copy II's features (see above) plus many more. It includes: undo; easy bold, italic, and underlining; table of contents, table of illustrations, endnotes, bibliography, and index generation; sections; multiple master pages; EPS graphic support; 120 outline fonts; rotating graphics; movable text blocks; and a user button strip. Release 3 now includes easy page numbering, drag and drop, type and spell, polygon drawing tool, special shape drawing tools, and dictionary hyphenation. Requirements: 2.5 megabytes of RAM, hard drive, and Workbench 2.04 or higher.



New program. Final Data is the new database manager for the Amiga. It is designed for people who need a convenient tool to keep track of lists of information. It combines very fast sorting and searching with quick printing of reports and labels. Final Data is ideal for name and address lists, video libraries, customer lists, references, etc. Anyone can learn to set up a database, enter data, and print reports and labels in a matter of minutes – not days! Reports come complete with page headings that include title and page numbers. Reports may be printed with totals and row counts. Labels can be defined in a variety of formats. Use with Final Copy II or Final Writer for the best mail-merge possible. Accepts PenPal, InfoFile, MiAmiga File, and File IIsg databases. Requirements: 1 floppy drive, 512K RAM, and WB 1.3 or higher.

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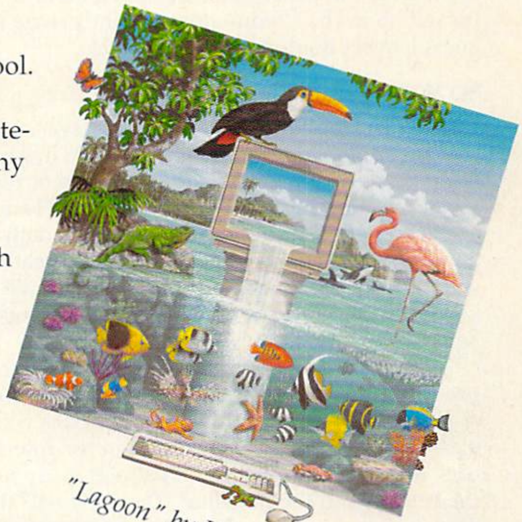
New!

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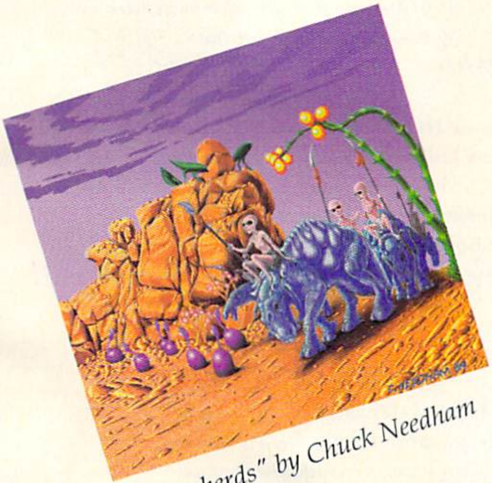
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DIGITAL CREATIONS

FIRST IMPRESSIONS

It seems we've stood and talked like this . . .

Watching horse races at bush tracks, you sometimes see some pretty poor events in which it seems the entire field is lumbering down the stretch wearing ankle boots of the kind favored by the late Jimmy Hoffa. Copy that thought for the "Commodore Derby" described in this column a month ago.

Thirty days is short if you're in the army, short if you want to pay off your entire MasterCard bill, and short if you're trying to select the jury in the OJ Simpson trial. But considering where I thought we were last month in the liquidation proceedings, I can't believe no one's turned up in the Commodore winner's circle by now. I guess lawyers don't make good jockeys.

So Who Are We Mad At?

By their lack of haste, lawyers do, however, make my column appear almost timely. Let's face it, when it comes to news, magazine publishing in its present format isn't ready for even the entrance ramp to the "I-way," nor is it even competitive with traditional-format daily or weekly newspapers. (You can't believe, dear old reader, how scary it is to send out an editorial column like this when I know how many weeks later it's actually going to be before you read it in print.)

So although I went out on a limb last month to make a prediction (that the former UK management team would win), thirty days later nothing's come back (yet!) to haunt me—because *nothing* was resolved in the interim. Even back in November 1948, when almost every newspaper in the country ran the headline "Dewey Wins!" they only had to wait eight hours to eat crow and run a new morning edition with "(Sorry) Truman's Back!"

Bahamian Bossanova—*Allegro*!

So, let's get the legal proceedings on the move. The fact that the Bahamian Supreme Court required the liquidators' recommendations by October 15 (see "Overscan," p. 4) sounds like at least one step forward for Amigakind. The fact, also, that David Pleasance has already put the pedal to the floor to have all operations—production, distribution, and marketing—in place and ready to go shows that he's ready to move imediately if his group wins the bid. And the fact that Alex Amor of CEI has conducted several online interviews recently to outline his plans in great detail should he be the winner demonstrates that he means business, too. Everyone is ready and waiting. Maybe with a little (slightly edited) '60s Dylan-power behind us, we could exhort the legal eagles to listen to us:

Come lawyers and judges
Who decree with your pen,
And keep your eyes wide
The chance won't come again;
And *please speak real soon*
For the wheel's still in spin,
And there's no telling who that it's namin';
For the loser now *may never get to win*
For the times they are a-changin'!

Daniel Sullivan
Editor-in-Chief

AmigaWorld

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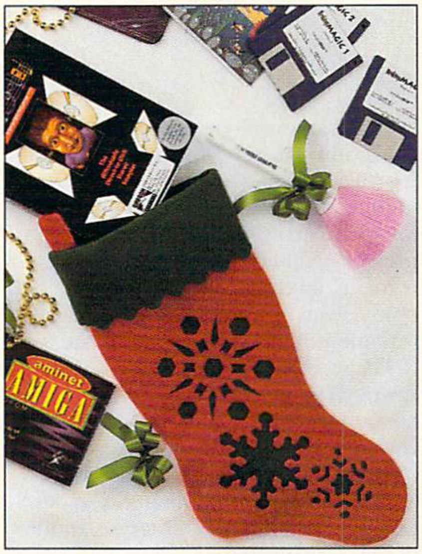
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By Peter Olafson

COVER ILLUSTRATION BY BOB SCHUCHMAN; COVER PHOTO BY EDWARD JUDICE; COVER SCREEN SHOT PROVIDED BY ADVENTURE SOFT LTD

OVERSCAN

Sound and Motion

Let *MetroGrafx* add a little "bounce" to your animations with two new Motion Master utility collections ($149.95 each).

Motion Master Volume I, a set of four programs, includes Time Machine for LightWave 3D, which features a timeline-editing environment for fast and easy morph setup, automatic key setup on a common graph, and a set of phonetic mouth positions for easy animated lip syncing.

The Extract Audio utility features speech synchronization with adjustable curve fitting, and the scaling and placement of audio data on any channel of a motion envelope.

The Pathflock flocking program features a true behavorial flocking technique with collision avoidance. It includes controls for strength of flocking urge, minimum intraobject distance, distant "bird" convergance with the flock, and a chaos factor for mapping erratic flight.

Finally, the Mouse Recorder utility provides a "scratch pad" to record mouse movement in real time, which it can then apply to an envelope or motion file.

Motion Master Volume II provides four new animation and motion-control utilities. If you work with hierarchically linked objects, the Child World 2 multiple-coordinate system translator may come in handy. It lets you detach a child object, even one inherited from a parent, with all motions and scaling intact.

Meanwhile, Wobbler adds wobble and spring to animated objects based on their motion and rotational velocity. It includes behavior controls such as damping and "blobbyness."

The Point At targeting utility makes it possible for an object to target another object. It takes source and target motion and produces a new source that has the same position and scale—but a z axis aligned with the target's path.

The last entry on Volume II is Volume Cube. You simply define a volume in space and specify objects, quantity, and velocity. From there, the utility builds a scene containing the objects bouncing around with a constant velocity inside that area.

Telecom With Teeth

Oregon Research wants to help you chew through telecommunications. Its new **Termite** terminal program ($49.95) supports data-transfer speeds from 300 to 115,200 baud. The program also allows multiple-line BBSs, a multitasking chat window, automatic call logging, configurable macros and button bars, and a flexible phone book with distinct configurations for each number. Plus, it has a customizable review buffer with cut-and-paste editing.

Termite is fully ARexx-programmable and 100% Amiga Style Guide-compliant, and it operates on all Amigas with one megabyte or more of RAM and Workbench 2.0 or later.

The Laws of Physics

Einstein never had it so good! ***Opportunity With Learning (OWL)*** has just released its new educational physics software, **Physics Laboratory in Mechanics**. This multimedia program teaches kinematics, rotational kinematics, dynamics, statics, universal gravitation, work and energy, and impulse and momentum. An interactive lab notebook allows students to simulate 21 different physics experiments, offering instructions on how to perform the experiments using everyday objects.

Also included are history, math, and unit reference sections. Requires AmigaDOS 2.0 or later, 2MB of RAM, and a hard disk.

Commodore Watch

Developments in the Commodore liquidation proceedings took a new turn as this issue of *AW* was going to press when it was reported that another group had entered the bidding process. Although not officially confirmed by the Court-appointed trustees, it appears that a proposal was received from a German-based group comprised of former officials of the now-defunct Commodore Germany and Commodore Netherlands subsidiaries (with rumored backing from Australian financial interests).

This eleventh-hour bid represents a somewhat bizarre twist in the legal proceedings, since the trustees supervising the liquidation were under a deadline of October 15 to make their recommendations to the Bahamian Supreme Court. The Court was then supposed to render its decision and announce the winning bid—although no time limit had been set as to when that decision had to be reached.

Meanwhile, the two groups that have publicly acknowledged their bids—the former management team of Commodore UK, headed by David Pleasance, and CEI of Florida, under the direction of Alex Amor—both remained confident of success. During two lengthy online conferences at the beginning of October, Amor graciously fielded questions from all comers and outlined in great detail his plans for Amiga development under CEI ownership. Pleasance, also brimming with plans, held meetings in half a dozen countries to discuss the relaunch of the Amiga spearheaded by his company.

—DS

This month, Tyson Knowles wrote and compiled Overscan. Send your news and press releases to Overscan, *AmigaWorld* Editorial, PO Box 802, 80 Elm St., Peterborough, NH 03458-0802, or via e-mail to record@dv.com.

To locate the vendors of products mentioned, see the "Manufacturers'/Distributors' Addresses" list on p. 27.

News and New Products

Automatic Backup

How many hours have you toiled replacing lost or deleted information? With **MultiVol Mirror** ($45), data re-entry is a thing of the past. This new file-back-up software from ***AugmenTek*** "mirrors" a file to one or more devices every time you or your software saves it. Then, you can retrieve it automatically if the original is deleted, overwritten, or lost due to system error or simply a mispressed button.

Featuring a graphical interface with online help (and a command line), MultiVol Mirror works with any device, including the console. Thus, you can even record shell I/O to document your actions for future reference. MultiVol Mirror requires AmigaDOS 2.04 or later.

Guide to the Galaxy

Trying to find the quickest route to the information superhighway? Dale Larson's *Connect Your Amiga! A Guide to the Internet, LANs, BBSs and Online Services* ($24.95, ***Intangible Assets***) may be just the "map" you need. The reference book (ISBN 1-885876-02-5) covers the ins and outs of accessing the Internet, as well as advice on buying telecommunications software and hardware. It also takes a look at popular networking hardware and software to get your Amiga linked to PCs and Macs.

Net Results

Canadian Prototype Replicas announces the release of **TCP/IP Internet Networking Software 2.1** ($150). Configuring and maintaining the TCPIP Base Kit is now just a matter of pointing and clicking, thanks to the package's new TCPIPConfig utility. And you can now specify choices using real names instead of the oblique IP numbers many other platforms require. TCPIPConfig creates and maintains all database and startup-script files and converts such things as host names to their IP host addresses when necessary.

Version 2.1, which requires a SANA-II device driver and Workbench 2.0, also includes an RLogin command that supports Workbench, configuration files, function keys, and ARexx.

Take Your Pics

Photography comes home to the Amiga with ***Legendary Technologies'*** four-volume series of photographic clip art, **ProPics**. Available in individual 20-image volumes ($39.95), or as a complete 80-image set ($129.95), every digital image included is royalty-free. Each package also includes installation software, manuals with thumbnail previews of the photographs, and ProImage, an image-processing program.



When static textures won't do, Moving Textures 100 will fill the bill!

For textures with a twist (sometimes literally!), try ***Precision Computer Graphics'*** **Moving Textures 100** ($249). Made up of 22 image sequences on a CD-ROM and a videocassette, this package lets you add to your animations realistic natural phenomena such as clouds, fire, smoke, and water.

Each sequence contains 300, 600, or 900 ready-to-use IFF frames and can be implemented by any program that can handle image sequences. Moving Textures 100 has been tested with Aladdin 4.0, Imagine 3.0, Lightwave 3D 3.1, Real 3D, Art Department Professional, (using FRED) and ImageFX (using the IMP hook); of these only Imagine cannot use sequences directly off of the DC.

IMAGETECTS puts the beauty of the world's flora online with **ImageCELs Hi-Res Botannicals**. The 32-bit TGA files provide alpha-channel masking for superior quality over fractal or procedural plants. The collection now covers several hundred species of plants, ranging from trees to annuals to indoor plants, of all climates and through all seasons. Eventually, it will encompass all commercially grown species on the planet.

ImageCELs are available at $10 each through DesigNetwork, a free online service. (You can download GIF thumbnails of each file free of charge.) Each one comes with detailed information on the plant, plus the pixel height, the width, and more.

Update Scan

OctaMED Pro owners will soon find themselves "back at the books." The music sequencer and composition program is already equipped with on-line help, but for those who prefer a traditional "hardcopy" manual, the **OctaMED Professional Manual** ($34.95, ***DevWare***) promises to be the definitive tutorial and reference guide for OctaMED musicians.

DevWare, by the way, is picking up distribution of Dr. T's **KCS 3.5, Level II, Copyist DTP,** and **Tiger Cub** music sequencers.

Heifner Communications has just announced **Pegger 2.0**, an update to its JPEG-compression software. New features include a 200% speed increase in file conversion of IFF 24-bit files and the ability to relate the SNOOP function (which automatically compresses and decompresses files) to particular programs. Pegger 2.0 also works across networks and has been tested with ParNet, Enlan DFS, and Oxxi's Novell client software.

MetroGrafx's upgraded particle-animation software, **Sparks 2.1**, features motion interpolation, a pointable nozzle, animatable velocity, moving targets, random rotations, explode models, and auto-parenting and -loading. Want more? There are also scores of effects, tumbles, and bounces. Besides that, the package includes new documentation and tutorials. Sparks 2.1 retails for $179.95; current owners can upgrade for $45 plus $5 shipping and handling.

Blevins Enterprises has added more dimensions to its 3-D digitizing system for NewTek's LightWave software. **Verti-Sketch 1.1** ($2395) features new lofting commands to rapidly create polygons without splines or patches, point selection with the digitizer's probe (instead of the mouse), and a point-snap mode to automatically detect duplicate points and revert to the original. A free upgrade is available for registered users. ■



Denny on DOS

HINTS & TIPS FOR MASTERING THE OPERATING SYSTEM

By Denny Atkin

#7—AmigaDOS 3.1

The Amiga's biggest strength has always been its operating system. In 1985, it was the most advanced OS available on personal computers, offering multitasking years before it became popular on the PC or Macintosh. AmigaDOS 2.04 then introduced a more attractive user interface as well as many much-needed improvements, and all previous Amigas could be retrofitted with this new version.

When AmigaDOS 3.0 rolled around, however, it was available only on the new A1200 and A4000; owners of classic Amigas were told they'd have to wait for 3.1, which would include some code to make the new operating system work better on machines with the original custom chip set. But before 3.1 could be released, CBM declared bankruptcy.

You can't keep a good operating system down, though. The German company Village Tronic had made arrangements to sell a licensed version of AmigaDOS 3.1, and—despite Commodore's situation—the company released the upgrade this summer. Expert Services picked up the North American distribution rights, and it's now available to most Amiga owners. (Software Hut now distributes 3.1 upgrade kits, too.)

I'll deal here with what 3.1 includes and what's involved in the upgrade process; next month I'll go into more detail regarding some of 3.1's new features.

Chipping In

The main components of AmigaDOS 3.1 are a new ROM chip containing Kickstart 3.1, the six disks that make up Workbench 3.1, and a very nice set of manuals covering AmigaDOS, Workbench, and ARexx. Because of differences in the ROMs for various Amigas, there are three different 3.1 packages: one for the A500 and A2000, one for the A3000, and one for the A4000. Amiga 1000 owners can use the A500/2000 version with a ROM adapter such as DKB's Kwickstart II.

Mysteriously, there's no ROM available for Amiga 1200 owners; they can use the 3.1 Workbench disks with Kickstart 3.0, but there's currently no way for them to upgrade to Kickstart 3.1. Amiga 600 owners are completely out of luck; the only version of Kickstart ever created for that machine was 2.05, and WB 3.1 needs at least Kickstart 3.0 to function.

> **Quick Tip**
>
> AmigaDOS 3.1 supports synchronous SCSI transfers on the Amiga 3000. If your drive can handle these, you'll see speedier disk transfers. If it can't, however, you'll get a lockup when you try to boot your system. Before installing 3.1 ROM chips in an A3000, you should make sure you disable the sync-transfer bit in battery-backed memory. To do this, you'll need a public-domain utility like Battmem or SCRAMmer, which are available on online networks and many BBS systems.

Installing the operating system is relatively simple, as long as you're comfortable with replacing a chip on your computer's motherboard. It's not a difficult procedure. The trickiest parts are trying not to bend the pins on the chips and trying not to cut yourself when removing components. (I'll always remember upgrading my A4000, thanks to the scar on my finger from removing the processor daughterboard.) Just follow very carefully the instructions included with the upgrade, make sure that all the chips are oriented properly, and above all take your time and be patient.

If you're an A3000 user, be particularly careful when installing that version, as the sockets for the two ROMs in some machines are labeled backwards; follow the instructions included with the upgrade, and all will be well. If you're not comfortable with the procedure, though, you'd better let a dealer or technical friend perform the upgrade for you, as replacement Amiga motherboards are now rare.

Why Buy?

Should you upgrade to AmigaDOS 3.1? If you use your Amiga for more than just games, absolutely. How big an improvement you'll see depends on which operating system you're currently running. If your machine is now equipped with Kickstart 1.3 or earlier, installing 3.1 will make it perform like an entirely new computer, with a new interface, better performance, and tons of new capabilities. AmigaDOS 2.04 users will see many new improvements, such as the ability to read and write MS-DOS disks, language support, PostScript printing, better font support in some applications, IFF Workbench backdrops, and more.

With 2.1, the improvements are more subtle, but some of them—such as dramatically faster Workbench graphics updates and support for file datatypes—will make the upgrade worthwhile. Users of Amigas equipped with the original chip set and graphics cards such as the Picasso II will find 3.1 well worth the money, as it will let them run most OS-legal programs—such as PageStream 3.0, Professional Page 4.1, Final Writer, and SimLife AGA—in 256 colors.

The decision is tougher for Amiga 4000 owners. The 3.1 release does offer some improvements over 3.0, including built-in CD-ROM drive support, more datatypes (including ANIM and CDXL), and new monitor drivers that allow larger overscan values and eliminate black borders in most cases. There are also numerous fixes of subtle bugs.

Amiga 1200 owners can use the disks with Kickstart 3.0, thus taking advantage of many of the improvements, including the new datatypes and CD-ROM driver. But some ROM-based enhancements, such as larger screen sizes, won't be available until someone releases a 3.1 Kickstart designed for the A1200. ■

*Denny Atkin is author of the book **Denny Atkin's Best Amiga Tips and Secrets**. Send suggestions to him via e-mail at DennyAmiga@aol.com, or write to him c/o **AmigaWorld**.*

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Requirements: Any Amiga with at least 1 M of RAM and AmigaDOS 2.0 or higher.

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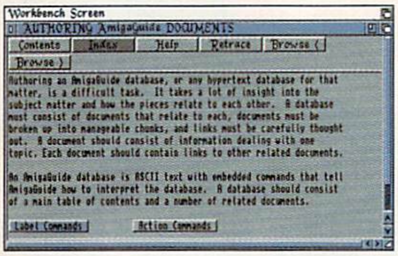


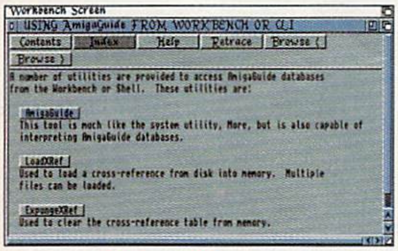
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ON-LINE SOURCES FOR FREELY DISTRIBUTABLE SOFTWARE

By Tim Walsh

As the Commodore drama drags on, the online venues continue to hold their impromptu town meetings on the matter. Amiga forums on the nets are the primary locales where issues are discussed, possible scenarios debated, and opinions shared. Such discussions may become heated at times, but they defuse the tension and anxiety by allowing frustrated owners and developers to vent their concerns. Several networks, most notably GEnie, have helpfully taken it upon themselves to post the transcript of *AmigaWorld*'s hotline message each time it is updated. Time marches on, and we hope to see a resolution soon.





Buttons, sliders, and menus make AmigaGuide extremely easy to use.

Guide Your Way

If you've been using your Amiga long enough to know the parent company is in liquidation, then you're probably also aware of the handy hypertext system, Amiga-Guide, by David Junod. A staple with many users, AmigaGuide serves as an all-purpose text handler, with exemplary online support in the form of accessory files.

AmigaGuide's simplicity masks its power. It works by linking together sets of related documents, which in turn contain references to other documents. When you open a document (either a text file or a database) in the AmigaGuide environment, it displays an Intuition window complete with a scroll bar, interactive buttons, and pull-down menus.

AmigaGuide uses Dynamic Nodes, a hypertext document that's generated in real time for viewing and manipulating. The helpful documentation that accompanies the most recent version (34.11) of the AmigaGuide.-library and its related files (AmigaGuide v34.3 and AD2AG v39.2) contains sample code for adding an AmigaGuide interface to your own applications, as well as examples of controlling AmigaGuide via ARexx.

There are several PD solutions that help in creating AmigaGuide documents and databases. One is **Heddley v1.0**, an editor by Edd Dumbill that uses an Intuition interface and ARexx port to speed the process along. You point-and-click to define buttons on the text, which greatly simplifies the otherwise tedious process. Another is Mike Yaunish's giftware program, **HelpBook v1.0**, which lets you create AmigaGuide documents without having to learn AmigaGuide programming codes. HelpBook also automatically alphabetizes all buttons—a nice touch.

Another helpful program in the public domain is Stephan Sürken's **Text2-Guide**, recently upgraded to v3.1. As its name implies, this CLI-based program converts text into AmigaGuide format. Its documentation is fairly cryptic, but as long as you know the basics of how the program works and divide your text document into units (separated by dots), it's a fairly straightforward process. Another text-to-AmigaGuide utility is **AmigaGuideWriter v1.03**, a shareware program by David McPaul that reads and writes a variety of AmigaGuide commands. A GUI interface makes it easier to use than Text2Guide.

When you want to reverse the process and convert AmigaGuide files into text files, the freely distributable **Ag2txt** by Jason R. Hulance does the job nicely. The archive consists of two files: Ag2txt13 for AmigaDOS 1.3 holdouts, and Ag2txt20 for 2.0 and later users. The program is written in E, so you'll need to get your hands on an Amiga E compiler if you intend to tweak any of the included source code.

PrintGuide, a program by John J. Bolton, lets you print AmigaGuide files by filtering out all the AmigaGuide commands. There's even an AmigaDOS 3.0-or-later AmigaGuide-based **manual browser** by Christian Stieber that lets you use AmigaGuide to browse through a directory tree. You just click on a directory to enter it and click on a file to view it, all from within AmigaGuide.

More AmigaGuide Online

You may have heard of *The Big Dummy's Guide to the Internet*, published by The Electronic Frontier Foundation. Now, two enterprising individuals, Adam Gaffin and Joerg Heitkoetter, have taken it upon themselves to provide us with an Amiga-Guide version. While it's not considered an in-depth source of information about the Internet, this version consists of ten files that give a brief—and possibly over-enthusiastic—glimpse of the Internet. Included are tips on using items such as WWW (World Wide Web) and Amiga-specific FAQs (Frequently Asked Questions) that deal with the Internet.

Network Voice Numbers

BIX
800/695-4882
617/354-4137

CompuServe
614/457-0802
800/848-8199

Delphi
800/695-4005

GEnie
800/638-9636

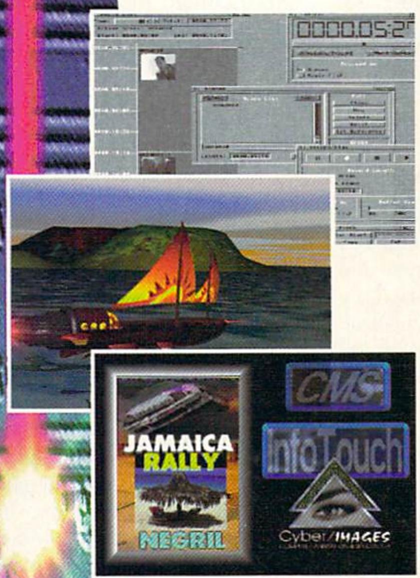
Portal
408/973-9111
800/433-6444 ■

*Write to "Prime-Time PD" c/o **AmigaWorld** Editorial, 80 Elm St., Peterborough, NH 03458; or contact Tim through the Internet at "twalsh@bix.com".*

vlab motion

fully functional non-linear editor and real time 24-bit animation recorder

- *Outstanding quality non-linear editor*
- *16 bit audio with the Toccata*
- *Complete ARexx support*
- *Comprehensive digital effects*
- *Digital character generator*
- *Chroma keying for "Blue Box" effects*
- *Composite & Y/C input & output*
- *Freely adjustable data rates*
- *Optional transcoder for component in/output*
- *Powerful, easy-to-use MovieShop software features time line & hierarchical editing*
- *$1750 for VLab Motion or $2150 with the Toccata*



"After early press releases concerning the VLab Motion JPEG Board, CMS application developers knew that the board was the key to a world of new opportunities for our Kiosk Development Environment (KDE). We needed cost-effective video encoding/decoding, non-linear editing, as well as low-cost single-frame recording. VLab Motion promised to do all this while delivering developer support features unavailable or cost-prohibitive on our OS/2, Windows, and Macintosh Systems. Immediately after we installed our first VLab Motion and booted up we realized we'd received much more than we expected. Since then we've learned that at Caribbean Multimedia Solutions, Inc., we can always depend on the NoahJi's Customer Support team. **The VLab Motion's excellent video quality and user-friendly and flexible software have been sheer joy.**"

— Carlton Cunningham,
Applications Developer, Caribbean Multimedia Solutions, Inc.

NoahJi's

Also distributing Retina Z-III, Retina Z-II, VLab Y/C, and Toccata 16.

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Voice: 303.499.1975
Fax: 499.1979 • Tech: 447.8126 • BBS: 969.8967

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REVIE

VLab Motion

Full-motion JPEG video card.

MacroSystem; distributed by NoahJi's, $1750; $2150 with Toccata sound card

All Zorro II-slot Amigas.
2.x/3.x compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.

Installation: **Easy.**
Minimum system: **2MB fast RAM, 20+MB hard-drive partition.**
Recommended system: **68040 accelerator, dedicated 100+MB SCSI hard drive, video input device.**

Even casual observers of the Amiga market have no doubt heard of MacroSystem's JPEG video board, VLab Motion. Coupled with software called MovieShop, it digitizes video in real time for playback from your hard drive.

VLab Motion inputs and outputs S-VHS, CVBS (composite NTSC) or PAL video signals via its RCA and S-VHS DIN connectors. Incoming video loops out and can be viewed and recorded to your hard drive or to videotape. VLab Motion also imports and plays rendered 3-D frames, in some cases eliminating the need for a single-frame controller.

JPEG Motions

The early production version of the VLab Motion package I received crashed frequently. Insufficient documentation (later corrected) led me to believe the problems were due to options and menus not covered in the manual. When maladies persisted, NoahJi's sent another board. Although the new one digitized nicely, playbacks immediately crashed my A4000. I reinstalled the first board, tightened some loose chips, and, whenever it crashed, turned off my Amiga to let it cool down, as the board seemed to be heat-sensitive.

When VLab didn't crash, the A4000's stock IDE drive could sustain a remarkable eight to ten seconds of video playback or recording at 50% JPEG quality, using an 8MB RAM buffer and a 640x480 image. Coupled with a fast SCSI controller and hard drive, the board generates superb footage, with top-notch image quality. I would challenge anyone to distinguish the original footage from VLab Motion's digital-video output at only 50% JPEG quality.

The board operates in YUV (4:2:2) mode, which allows the software to do color keying of the incoming video, with the video being played back from the hard drive. A duo of U and V color sliders adjust the transparent color. Because it lacks any form of timecode, however, VLab's output doesn't readily lend itself to seamless integration into professional editing systems.

To locate the vendors of the products reviewed, see the "Manufacturers'/Distributors' Addresses" list on p. 27.

Back at the (Movie)Shop

The included MovieShop software controls VLab and also provides editing functions for creating a Scene—a series of frames. Multiple Scenes constitute a Project, and only one Project can be open at a time. All the Scenes for the current Project are written to a specially formatted hard-drive partition. Opening a new Project reformats the partition, thus creating space for new Scenes. Be careful, though: Unless you've saved the Scenes elsewhere, all stored footage is lost.

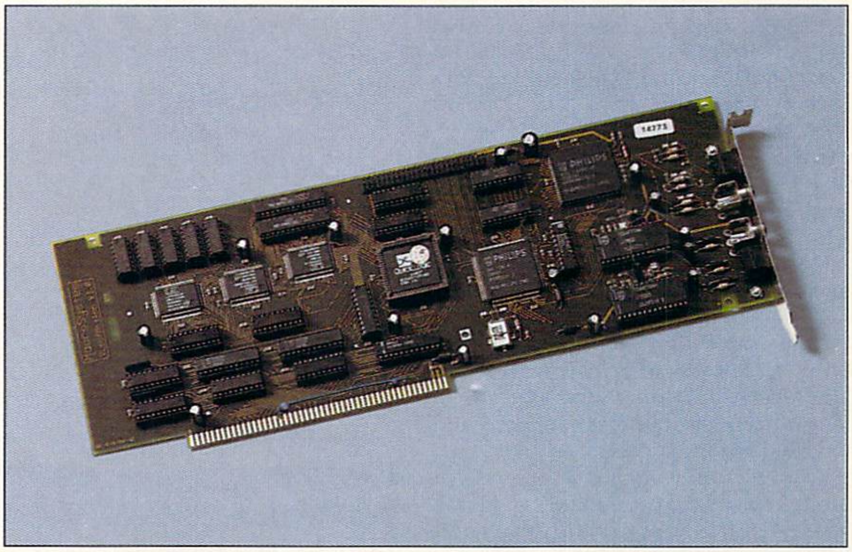
You can save the Scenes on the VLab partition to any AmigaDOS storage device as a file—a nice touch. You can then reload any of these Scenes into your current Project, a process that writes the Scene back onto the special VLab partition for playback. In essence, the partition works like a fast-RAM buffer. Because you can store your Scene files anywhere, the only ones that need to reside on the special partition are those in use.

To edit with MovieShop, simply slide through the Scene to the first frame and click the Set Start button. Then slide to the last frame and click Cut, Copy or Delete. You can then slide to any frame and paste the copied footage.

You can export or import the cut or copied footage (or any images you grab with VLab) as IFF Deep, IFF ILBM, PPM, or Sunraster files. I like the simplicity of the editing system.

You can rearrange whole Scenes in any order by using your mouse in the Scenes window (or in the Movie List) to grab their names and move them.

W S



VLab Motion plugs into any free Zorro slot and converts your Amiga into a JPEG-animation powerhouse.

Moving is also easily accomplished between the Movie List, the Scene window, and the Clipboard window. Furthermore, you can group Scenes, and even group groups of Scenes a second time into a hierarchy.

Toccata Tunes, Too

MacroSystem's Toccata 16-bit sound board was included with my package, as the company claims you can create and play back digitized sound with digitized video. I installed Toccata, then tried to back up 200 LightWave frames to DAT tape, using my copy of Ami-Back, but my Amiga would lock up and crash, reporting illegal SCSI phase errors. Suspecting the VLab board, I removed it. Three frustrating days later, still wrestling to back up the files, I removed the Toccata audio board; the Ami-Back problems vanished, and my tape backups operated as smoothly as ever.

When I later reinstalled the Toccata board, I could indeed digitize sound with the video, but the sound output was delayed when played back with the video. This could be attributed to the slow speed of my drives, but regardless of the cause, the machine always locked up midstream.

On another note, the MovieShop program supports ARexx, but it neglects to mention this in the manual. There is an option called "FRED list (frames)"in the Import Image window that apparently uses ARexx to handle FRED scripts from Art Department Professional.

Best In Class

NoahJi's new MovieShop version 1.2 of the software began shipping just as this review was going to press. With support for editing Toccata audio files together with video, this software breathes new life into VLab Motion with character generation as well as new video special effects.

While VLab Motion is a little rough around the edges, bear in mind that no other computer product on any platform offers digitizing and playback of real-time 30-fps video, with flawless image quality for under $2000. As a new product, both the software and hardware suffer from some teething problems, but VLab Motion shows enormous potential, and with NoahJi's helpful customer service and quick response to problems, this is a worthwhile video investment.

—Fred Hurteau

Audio Expander

Contraption Industries, $69.95

All Amigas.
1.x/2.x/3.x compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.
***Installation*: Easy.**
***Minimum system*: 512K.**
***Recommended system*: 1MB, sound utilities, stereo amplifier.**

Low-cost Amiga sound-enhancement device.

There's nothing wrong with the Amiga's standard 8-bit stereo sound. It holds its own when compared to some other computers and requires no investment in additional hardware. When you're ready to give Amiga music a little boost, just add a sound card or cartridge—a piece of hardware that improves the sound and provides audio-digitizing capabilites—and the results are usually exemplary.

That raises the next question: Which sound device is right for you? For an alternative to low-cost sound cartridges, consider Contraption Industries' Audio Expander for the Amiga. Not exactly brimming with either technology or options such as sound digitizing, the low-buck Audio Expander is an external box that improves the sound output of your Amiga. It connects using a custom serial-port adapter and requires that you supply your own two-in and two-out phono-jack sound cables.

Connection Details

Although three disks of software accompany it, this is a stand-alone product: Other than some sound files, no special software is necessary. Getting started involves plugging the Audio Expander's combination serial adapter/power cable into the Amiga's serial port. Right away, two issues arise: One, turn the adapter around and it plugs into the parallel port as readily as it does into the ►

serial port. Second, whenever any device occupies the serial port, I worry that other serial devices may be adversely affected. Thankfully, my external modem connected to the pass-thru end of the Audio Expander remained oblivious to its presence.

In my haste to use the Audio Expander, I inadvertently plugged its serial adapter into the parallel port and the printer cable into the adapter's pass-thru. The unit's red activity light didn't illuminate, indicating all was not well. Fortunately, no fireworks resulted and nothing was the worse for wear.

With the serial adapter in the proper port, I connected the ends of two phono cables to the Amiga's left and right audio-output jacks and the other ends to the audio-in jacks on the Audio Expander. The unit's two outputs were routed into an amplifier, in this case an old Quasar boombox reserved for beach days and just such occasions.

Because the output is boosted a fair amount over stock, you should heed Contraption Industries' advice not to use a monitor. While they seem to work well, monitor speakers can't handle the boosted wattage from the Audio Expander. A 15-watt or higher boom box or an old stereo receiver works wonders.

Beautiful Music

Once you've made all the connections correctly, you're ready to put the unit to the test. Left- and right-gain controls on the front let you adjust the amount of output on the two channels. For best results, I found that less truly is more; i.e., the lower the gain, the better the sound quality.

The three accompanying disks provide some MOD-format music modules for testing the Audio Expander's sound output. A digitized Elvis parody, where he's singing his favorite song as if he forgot the words, is particularly entertaining. The sound quality is improved quite a bit, with powerful bass and note clarity.

On the negative side, the first unit I received arrived sans any documentation (the two-page manual arrived later), which accounts for the mistake I made in connecting the unit to the wrong port. A sticker on the serial adapter itself with connection instructions would help.

Your favorite MODs, games, music, and system beeps get a powerful boost that's sure to anger every parent in the household. The sound is clear and crisp, providing an improvement over the stock audio output. Tis the season to be holiday gift shopping, so you might want to consider this inexpensive, useful little device for the Amiga enthusiast on your list.

—*Tim Walsh*

TypeSmith 2.5

Soft-Logik Publishing, $199.95

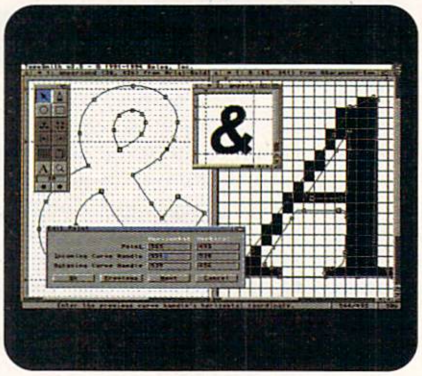
All Amigas.
2.x/3.x compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.
***Minimum system*: 2MB.**
***Recommended system*: 68020 or faster processor, multisync monitor, hard drive, 2MB chip RAM, PostScript laser printer.**

Font-design and-management software.

TypeSmith 2.5 is the latest incarnation of the sole commercial font-management package for the Amiga. A most useful tool in any Amiga graphics-artist's grab bag, TypeSmith 2.5 provides some of the features most often requested by users of the original package.

New Fonts

The big news is that 2.5 includes new Mac and PC TrueType font support. Another new format is TypeSmith IFF RFF, designed for use in creating your fonts. Continually saving and reloading



TypeSmith 2.5's work area is logically arranged.

in CompuGraphic or TrueType formats is slow and can double the number of points used in each character. Using IFF RFF format eliminates this problem.

Converting fonts from one format to another can add points as well. Some fonts have so many points and are so complex that many programs can't print them. The new Reduce Points feature, which replaces the ARexx macro of 2.0, eliminates excess points. TypeSmith 2.5 also lets you convert whole directories from any combination of supported formats to any other format through an included ARexx macro. Though the feature works as promised, it can be a tad slow. As it works unassisted, however, you can set it up to convert a large directory while you sleep.

New Paths

Another new feature prints complete character sets. Selecting Print Preview from the Project menu in the Overview panel dumps an entire character set to your printer, complete with ascii character labels. In addition, you can now edit the actual character names. Whereas some large-scale fonts were originally designed in em-squares too large for earlier versions of TypeSmith to load, 2.5 now scales such fonts to fit in its em-square without any loss of image quality.

In some fonts, correcting the path direction for character fills used to be a painful process involving the Clockwise and Counterclockwise commands. Now, the Correct Path menu items perform this automatically for a single character or a complete font. TypeSmith 2.5 also offers a global control over the "blue zones" of PostScript fonts, and the hinting algorithms for all of the other formats have been improved. You can select between PFB and ASE encoding when saving a PostScript font.

Other Improvements

TypeSmith 2.5 includes a utility for converting ProDraw structured drawings into the IFF DR2D format that TypeSmith recognizes. Also, the online help system works on any Amiga with 2.04 or later. Just hit the Help button on the keyboard to access it. If you have AmigaDOS 3.0 or later, the help system displays the file corresponding to the location of the mouse and offers status-panel prompts at the bottom of the screen. Otherwise, you get the main help screen and have to select the appropriate item.

You can now change the composition of many characters using the Next and Previous buttons from within the Edit Compositions window without having to close the window each time to select a different character.

You can import both PostScript PFA and the more common PFB files. Since Final Writer converts NimbusQ files to PostScript PFA files, TypeSmith 2.5 now lets you convert NimbusQ fonts to PostScript fonts and, from there, to the other supported font formats.

Despite improvements, you still cannot use the PostScript driver included with AmigaDOS 2.x. Most programs don't seem to have a problem with the admittedly quirky driver from Commodore, but TypeSmith 2.5 still trashes the system if you attempt to use it.

Continued on p. 42.

WARP ENGINE



Complete Acceleration Solutions for the Video Toaster/4000 and 3000 Systems. The WarpEngine™ provides the Highest Speed 040 Acceleration available with up to 128 Megabytes of Local 040 Burst Memory™ and the Fastest SCSI-2 HardDrive Controller Available! All of this WITHOUT using a single Zorro III Slot!

What the Press has to say about the WarpEngine4000:

Video Toaster User
"LightWave modelers and animators should make the WarpEngine an immediate addition to their system. Even Raptor owners will benefit from the faster response of both the modeler and layout screens. MSD boasts that the WarpEngine's SCSI-2 is the Fastest available...and I found their claim to be justified...Bursts of 9MB/s with my Barracuda drive and sustained rates of 6MB/s."
Tim Doherty - VTU, Oct. 1994.

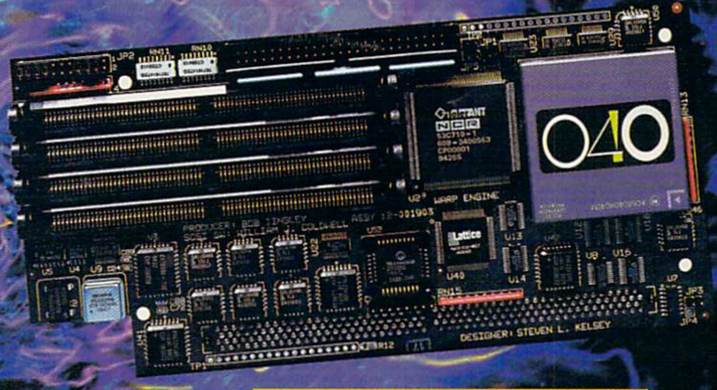
AmigaWorld
"I cannot give the G-Force 040 an enthusiastic recommendation" "It offers no SCSI-2 controller, and limited memory-upgrade options when compared to the WarpEngine."
Sheldon Leemon - AmigaWorld, Sept. 1994.

Amiga Shopper Best Buy.
"If you want to push your A4000 forward and add SCSI peripherals at the same time, This is the card I would recommend."
Richard Baguley - Amiga Shopper, Oct. 1994.

AmigaFormat Gold Award
"The Hottest piece of silicon he's ever stuck in an A4000... The efficient DMA design means the CPU doesn't have to constantly deal with the data transfers, so it's ideal for situations which need both processing power and fast data throughput, such as animation."
John Kennedy - AmigaFormat, Sept. 1994.

The WarpEngine™ can also be upgraded to use the 060 in the future!

Amiga Computing Blue Chip Award.
"Although there are a number of acceleration systems for the A4000 and A3000 this is far and away the best yet. The WarpEngine provides jaw dropping performance. The fastest all round acceleration and data transfer system on the Amiga."
Paul Austin - Amiga Computing, Nov. 1994.



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Address-It!
The easy way to manage names and addresses for Home or Business use!!!
Extremely Powerful Extremely Affordable
Desktop MAGIC
A COMPLETE SYSTEM ENHANCEMENT PACKAGE
Protect your valuable monitor from phosphor burnin
Personalize your workbench with over 25 practical and entertaining animation modules
Add new power to all applications by assigning sounds to windows, keys, time...
DesktopMAGIC 2
DesktopMAGIC 1
DesktopMAGIC 3
AMIGA
The Affordable Direct-to-Disk Stereo Sampler
DATAFLYER
SCSI+
SCSI Controller for A1200 or A4000
aminet
AMIGA
CDROM
Thousands of programs for the Amiga Computer

The Amiga Owner's Holiday Gift Guide

Looking for a gift idea for your favorite Amiga user? Or maybe just shopping for yourself on a tight budget? Well, check out our economy-minded guide to a wide assortment of Amiga products priced under $200.

By Sheldon Leemon

Among their other virtues, Amiga computer owners are extremely easy to shop for. Computers always seem to need a new piece of software, some hardware enhancement, or that absolutely necessary accessory. Since Amiga products come in all price ranges—from a two-dollar mousepad to a two-thousand-dollar Video Toaster board—it's pretty easy to find a gift that will be appreciated.

We're sticking to the lower end of the price spectrum to help you find something that's affordable as well as useful (almost all of our gift suggestions are under $200, with most $100 or less), but you'd be surprised at how much is available to the budget-conscious shopper. Prices of computer peripherals and other products have fallen dramatically during the past twelve months, which means that this year your gift dollar will go further than ever before.

While some items listed in the guide are quoted at the manufacturer's suggested retail price, others reflect "street-price" costs and require some fairly easy comparative shopping among local dealers, mail-order houses, or other equipment sources. The developers of all products in the guide are included in the text; to contact them, consult the "Manufacturers'/Distributors' Addresses" list on p. 27. Mail-order outlets for Amiga products can be found in advertisements in *AmigaWorld* and other Amiga magazines. ►

Hardware Upgrades

Many of the most startling price reductions have come in this category. If you've checked in the past on the price of adding, say, more memory, a larger hard drive, or a faster modem and found them too expensive, it may be time to check again. Many items you may have considered extravagant before might suddenly seem more practical now.

Memory Upgrades

Is your favorite Amiga owner still struggling with one or two megabytes of RAM? These days, RAM is selling for about $40 to $50 per megabyte. That means you can add four megabytes to a system such as the A3000 or A4000, both of which have sockets for additional chips, for well under $200. Even if you have a machine like the A1200, which doesn't have sockets for additional RAM, you can find expansion boards like ***DKB***'s **DKB 1202** and ***Paravision***'s **1200Z** for a little over $100 without RAM, and well under $200 with a megabyte of RAM. In fact, you can buy the **DKB 1228** accelerator board, which adds a 28-MHz 68030 processor as well as RAM sockets for under $200. Most A2000 and A500 RAM cards are



Paravision 1200Z

still available, and they are more affordable than ever. ***GVP***'s **A4008** card for the A2000, for example, provides both a SCSI drive interface and RAM expansion for about $150, while ***Expansion System***'s **DataFlyer** RAM card sells for under $200 with 2MB of RAM. For A2000 and A500 owners who need more chip RAM, ***DKB*** still sells the **MegAChip** board, which adds a megabyte of graphics memory for under $200.



GVP A4008

Hard Drives

Most of the original Amiga hard drives were in the 40–100MB range, but these days large hard drives are so cheap that it is almost impossible to find one that small! With 500-megabyte IDE and SCSI drives selling in the $300 price range, I've seen some good closeout values on 300-meg drives for around $200, and you may still find 40–100MB drives for as low as $100. That spells an inexpensive storage bonanza for Amiga computers that come with a hard-drive controller (such as the A600, A1200, A3000, and A4000). For models that don't (like the A2000 or A500), it shouldn't take more than about $150 or so to add a controller such as ***Expansion System***'s **DataFlyer** SCSI or IDE, or ***GVP***'s **A4008,** mentioned above.

Printers

Not too many years ago, the least expensive 9-pin dot-matrix printer would set you back almost $300. Lately, however, such printers as the ***Panasonic*** **KXP-1150** and ***Star*** **NX-1001** have been selling in the $120 range, with sale prices dipping below $100. These days, no Amiga owner need exist without a printer. If you are willing to spend between $150–200, the choices expand rapidly. You can move up to a 24-pin dot-matrix printer like the ***Panasonic*** **KXP-1123** (with the option to add color later on) or a laser-quality inkjet printer such as the ***Epson*** **Stylus 300**. (Don't expect, however, to find a color inkjet printer like the Cannon BJ-4000, or a laser printer like the Okidata 400, for much less than $500.)

Modems

With so much media attention focused on the "information superhighway," many computer owners want to find out what all the fuss is about. Multifunction modems make a great gift because not only do they open the door to bulletin boards, information services, and the Internet, but they also function as high-speed fax machines. Last year, an external 14,400-bps modem with fax capabilities cost almost $300. Currently, however, name-brand models from companies such as ***Hayes***, ***US Robotics***, and ***Supra*** (such as the **144LC**) are selling in the $140 price range, and you may be able to find lesser-known brands for under $125. Even if you spring for fax software (which is currently in the $60 range), your entire purchase will remain well below $200.



SupraFAXmodem 144LC

High-Density Floppy Drives

Although high-density 3.5-inch floppy drives have been the computer-industry standard for a couple of years now, only the Amiga 4000 comes with them as standard equipment. You can remedy this situation, however, with the gift of a high-density floppy drive. ***DKB*** sells external high-density drives for all Amiga models, and internal drives for the A2000, A3000, and A4000, for under $150. In addition to doubling your floppy storage capacity (to 1.76MB per disk), these drives allow your emulator programs to read and write IBM and Macintosh high-density floppy disks, making them an absolute necessity for those who wish to exchange data between the Amiga and other computers.

CD-ROM Drives

CD-ROM drives are becoming more and more popular on the Amiga as a way of distributing mass quantities of software and data for a very low price.

While the newest triple-speed and quad-speed drives cost upwards of $300, older single- and double-speed drives have really dropped in price. About the only thing these drives won't do well is to play movies off of the CD. Since there are almost no programs for the Amiga that do that anyway, what is a liability in the IBM world is a buying opportunity for Amiga owners and their cost-conscious friends. I personally use a single-speed ***NEC*** **CDR-25** drive and am quite satisfied with its performance. These drives (and other single-speed models) are currently selling in the $125 price range, and I've seen external SCSI CD-ROM drives at computer shows for as little as $70. In fact, at least one mail-order house offers the NEC drive with Amiga driver soft-



DKB Power XL High-Density Drive

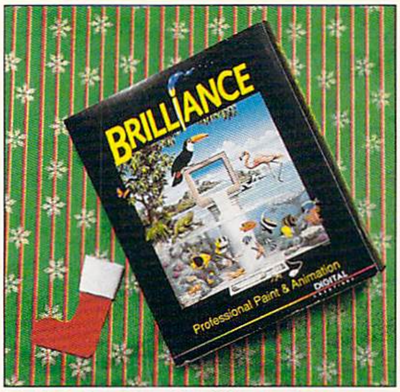
ware and a couple of CDs for $130. For an Amiga owner whose computer already has a SCSI interface, that's a gift bargain almost too good to pass up.

Audio Digitizers

Every Amiga has the capability of playing back high-quality digital sound effects and music. In order to record them, however, you need an audio digitizer, an interface that allows you to plug in a microphone or stereo system. These handy little gadgets have never cost much more than $100, but lately, prices have dropped even further. You can pick up ***GVP***'s **DSS8+** for about $70 or ***Oregon Research***'s **Megalosound** for only $40. Both include the software needed to record sounds on the Amiga.

Software Galore

There are many great bargains on the software side of the scale, too. Software of all kinds—from



Digital Creations' Brilliance 2.0

operating-system upgrades to to graphics and productivity programs to CD-ROM collections—is available at very attractive prices.

Workbench 3.1 Upgrade

When Workbench 3.0 first came out, it was available only for the A1200 and A4000. By early '94, however, Commodore had completed a 3.1 version that lets owners of most Amigas upgrade to the latest operating-system version. ***Expert Services*** obtained a license to distribute this upgrade, and is selling complete kits that include a new Kickstart ROM, Workbench disks, and manuals. Pricing for the A500/2000 version is $125, while the A3000/4000 version sells for $150.

Software Hut also provides 3.1 upgrades, with packages for the A500/2000 at $159.95 and the A3000/4000 at $179.95.

Applications Software

Graphics software has always been popular on the Amiga, and now there are a couple of outstanding values in that category. ***Black Belt System***'s **Imagemaster R/t**, widely acclaimed for its powerful image-processing functions, is available for about $70. ***Digital Creations***' **Brilliance** provides a powerful alternative to long-time paint and animation champ DeluxePaint, and, with the recently released version 2.0 priced at under $80, this powerful package is about 40% less expensive.

One category of software that scores big during the holidays is genealogy software. All those family get-togethers probably stir an urge to find out just how all of those people are related. ***Norris Software***'s **Norgen** program is the low-cost leader at about $50, while ***MVP***'s **Your Family Tree**, for about $80, offers optional GEDCOM support.

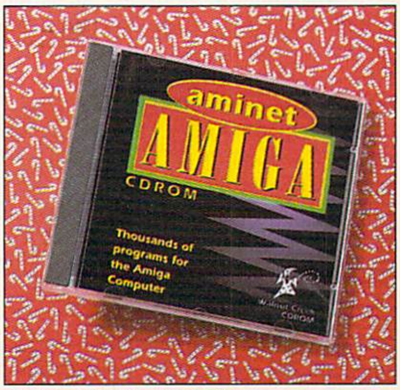
Personal-record-keeping software also goes down well around New Year's, as computer owners make resolutions to become more organized. **Checks & Balances** from ***AmiSoft*** promises to keep its owner's finances in balance, and, at about $40, is kind to the gift-giver's checkbook, as well. ***Legendary Design Technologies***' **Address It!** (also about $40) manages all the names and addresses you can throw at it and produces mailing lists and labels in many formats. Know somebody with a yen for home improvement? **HomeBuilders CAD** from ***DevWare*** is a mere $35.

And for a Real Saver . . .

The holidays are also a time for programs that don't do a lot, but are a lot of fun. Screen savers fall into that category, and one of the newest ones is **Desktop Magic**, a $30 animated screen saver and sound manager from ***MediaDesk***. It not only comes with a number of customizable screen modules, but it also allows you to assign sound effects or music tracks to system events such as inserting or ejecting a disk.

CD-ROM Collections

For the biggest software bonanza, look to the many software collections on CD-ROM. ***Walnut Creek***'s **Aminet Amiga CD-ROM** at $25 (a collection of freely distributable software from the Internet) and the **Fred Fish Collection** (available from ***HyperMedia Concepts*** for $75) are two outstanding software libraries available in that format. Each volume contains literally thousands of the best noncommercial games, utilities, and applications programs. For the avid game fan, the **Lock-n-Load** disc from ***Northwest*** ►



Aminet Amiga CD-ROM

Public Domain (about $20) has almost every freely distributable game you can think of. For the demo enthusiast, the **Euroscene** and **Demo** CDs are loaded with flashy animations and wild music.

If you know an Amiga owner who is interested in music, the **Ultimate MOD Collection CD** from ***Sunset Productions*** (about $25) includes more than 700 songs. For the 3-D enthusiast, ***Syndesis*** has come out with a second **3D ROM** disc filled with non-commercial 3-D objects in a wide variety of formats, and it has dropped the price of both the first and second discs to $100 each.



Commodore Who?

A Holiday Miscellany

Looking for a lower-priced gift? There's a multitude of small accessories that won't set you back a lot but are still useful—or at least fun.

Of Mice and Mouse Accessories

In addition to spawning a lot of bad jokes, the computer mouse has also inspired an entire industry. There are replacement mice in the $20–30 range, including ***Alpha Data***'s **Mega Mouse** and ***Micro R&D***'s **Pyramid Swifty**. Or try a mouse substitute, such as ***Alfa Data***'s **Crystal Trackball** (about $50). There are also switch boxes that allow you to plug in your mouse and joystick at the same time (the ***Alfa Data*** automatic switch is about $20).

How about accessories for accessories? ***Staticide*** makes a mouse-cleaning kit for about $11, and you can also get a mouse holder for about $5. There are even covers that allow you to disguise your mouse's appearance—from the **ACI Mouse House** (about $5), which makes it look like an actual felt rodent, to the **Auto Mouse** ($15), which converts it into a model Corvette. A mousepad, too, makes an inexpensive but useful gift. On a recent trip through computer chain stores, I turned up a couple of dozen types—from a $2 plain pad to a $4 pad with my college logo on it, and all the way to a deluxe $14 Star Trek model.

Safe and Clean

Since computers hate dirt, there a lots of cleaning products to consider, from a $6 floppy-head cleaning kit to a $20 battery-operated vacuum cleaner. Or you can avoid dirt with a plastic dust cover, ranging in price from a $5 generic square model to more expensive custom jobs like the **Safeskin** (***Merritt Computer Products***) covers made especially for Amiga keyboards (under $20).

Another popular item is the surge protector, which ranges in price from a $7 basic model to a $29 deluxe model with phone-line protection for a modem. For the security minded, there are disk-drive lock kits (under $20), while the environmentally concerned can be satisfied with a solar-calculator disk for just a couple of bucks.

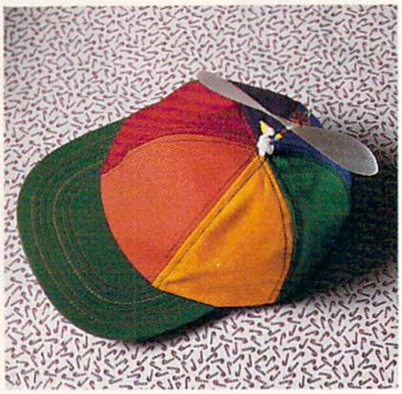
Reading and Watching

Books, magazines, and videos always make welcome gifts. Former Commodore networking guru Dale Larson has just published a new book entitled *Connect Your Amiga! A Guide to the Internet, LANs, BBSs and Online Services* ($25, ***Intangible Assets Manufacturing***). For ARexx programmers, there's Merril Callaway's *ARexx Cookbook* ($50, ***Whitestone***). You can even get a signed copy of the *AmigaDOS Reference Guide*, covering all AmigaDOS versions up to 3.0, directly from the author (me), for $12 postpaid—less than half of the cover price (170 W. 12 Mile Road, Madison Hts, MI 48071). And just about any Amiga owner would appreciate a gift of one of the British disk/magazines. Titles like *Amiga Format*, *C.U. Amiga*, *Amiga User International*, and *Amiga Computing*, complete with a disk or two of software, are available on many of the larger US newsstands or from mail-order houses for about $10.

For under $20, ***DevWare*** distributes TechMedia's *History of the Amiga*, which takes a nostalgic look at the machine's beginnings almost a decade ago, as well as *Amiga Animation, Volumes 1 and 2*, which demonstrate how the art of animation has progressed on our favorite machine. ***TechMedia***'s own *Amigamations* video (with results from *AmigaWorld*'s third annual animation contest) is available directly from the publisher for $19.95. For the Video Toaster owner, try a tape from ***Desktop Images***' library of instructional videos ($50 each).

And to All a Good Night . . .

Looking to make a fashion statement? A propeller beanie from ***Interstellar Propeller*** ($6) identifies its proud owner as an official Computer Nerd. Or how about an official Amiga Wake T-Shirt from the Commodore engineering staff's official goodbye party ($19.95, ***Obvious Implementations***)? You can let the world know that the Amiga spirit lives on, even while the legal status of the machine is still in limbo. (Also, the Deathbed Vigil, the video, has just become available from ***Intangible Assets Manufacturing***, $35, PAL; $40, NTSC.)


You can get there anyway, Scotty!

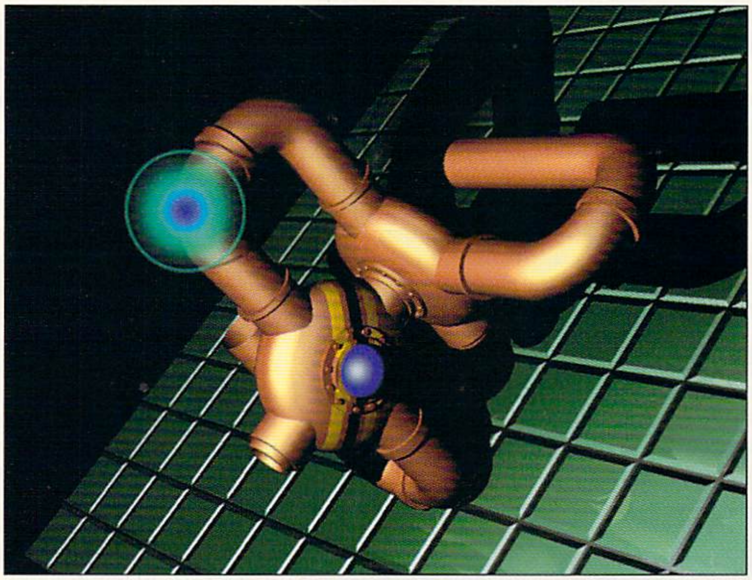
Whatever the inclinations of your friends, a computer-related gift is certain to be used and enjoyed. As any Amiga owner can tell you, a CD-ROM fills a stocking much more nicely than a lump of coal any day! ■

*Sheldon Leemon, a computer/video consultant and instructor, is the author of two books and scores of articles covering the Amiga. He also serves as Amiga Forum Manager on National Videotex Network. Write to him c/o **AmigaWorld**, Editorial Dept., PO Box 802, 80 Elm St. Peterborough, NH 03458-0802.*

Teaching Imagine *Some New Tricks* 3.0

IMPULSE'S 3.0 VERSION OF IMAGINE IS OUT, AND IT SPORTS SOME ELEGANT NEW FEATURES. HERE'S A TUTORIAL THAT LEADS YOU THROUGH SOME OF THE INNOVATIVE, STATE-OF-THE-ART PRESTIDIGITATIONS OF THIS POWERFUL PROGRAM.

By Steve Worley



A few rare pieces of software have a certain quality that instills a sense of wonder in their users. The program might be tricky to use or have quirky behavior, but it rewards those who persevere with a sense of accomplishment. Impulse's Imagine is this kind of program. Its three-dimensional modeling and rendering capabilities have evolved over the years, gathering a loyal following of artists and animators. This evolutionary process has now produced the long-awaited version 3.0.

Magical States

While the entire program was reviewed in the Sept. '94 issue (p. 18), it may be useful here to examine in depth some of the new features and see how they work. These new abilities are proudly termed Imagine's new "magic" features, but, as in mastering any new sleight-of-hand move, it takes knowledge and practice to make it all seem effortless.

New methods to deform and texture objects dominate the list of changes in this newest release. This most impressive new conjuration is the development of a feature called "States." Previously, Imagine tended to manipulate a 3-D object as a static model with a painted surface; polygons defined a rigid structure, and most animation was performed by linking these rigid forms together with joints. This was adequate for many types of mechanical motion, but for liquid, organic movement, a different animation method was sorely needed. States represents Impulse's solution to part of this problem; it allows you to change a model's structure and appearance in ways that were formerly difficult or impossible for Imagine to do. ►

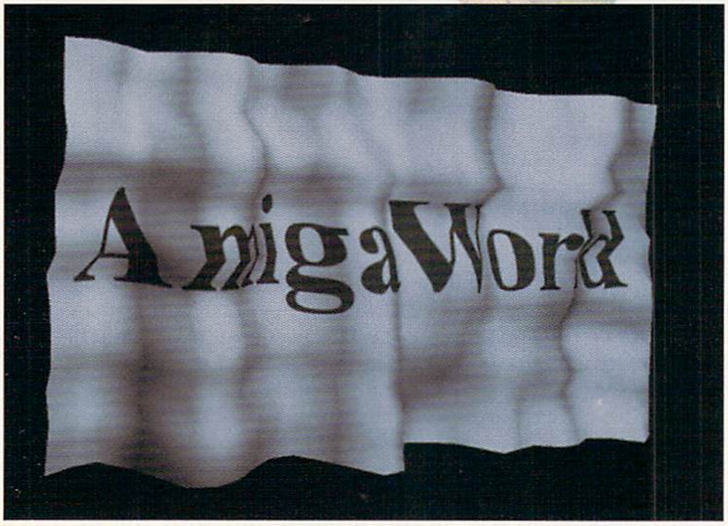
Specifically, States provides you with the ability to create basically different configurations, or "poses," of the same object. This might be as simple as two versions of a fishing rod, one straight and another bent. The two "states" of the rod are stored in a single file, and during rendering and animation you can choose which you want shown. You can also define animated transitions between states. Simply changing the state over time would create an animated bend in the fishing rod.

A state not only describes the object's geometry (the shape of its surface), but can also define the way its sub-objects are assembled. Some objects are hierarchical, with a variety of sub-parts, and States can define the position, orientation, and size of each of these elements. This allows for animated changes such as the rotation of the crank on the reel attached to the fishing rod. In this case, the *shape* of the crank does not change; it just rotates without any deformation. States can describe *both* kinds of change, either independently or simultaneously.

Realizing the Illusion

Another aspect of States is perhaps even more important. This new Imagine feature allows what is usually known as "texture tacking." When a material object changes shape, its surface obviously must move with the bend or distortion. When certain surface attributes, such as a texture or image, are mapped onto an object, it is essential for these to move with any alteration of the surface in order to preserve the viewer's illusion that the object is real, and not just a computer construct. Seeing bamboo knots spaced along the surface of the fishing rod, for example, helps convince you that you're seeing a bent rod and not a melting bar of plastic.

Texture tacking is cleverly integrated into the States paradigm. Because an object remembers different versions of its state, it can use one to define its geometry, but can refer to another when specifying its surface features. For example, it is easy for Imagine to add the bamboo knots to the fishing rod when it is straight; it's a standard surface effect (a cylindrical image wrapped about a long, narrow cylinder). It can then use its knowledge of the correspondence between different states to render the surface features in a way that's consistent with the original definition. Imagine must render each small area of the bent rod by asking itself, "Where is this same area on the straight version of the rod? Now what color is that corresponding area on the straight rod? I'll color this little part of the bent rod the same way."



Imagine's texture-tacking feature lends realism to the image of the rippling flag.

Flapping Flags

In practice, it is not difficult to use this wonderful feature. By applying surface features in one state (often the simplest configuration), you can change the object geometry any way you like, and the surface appearance will remain consistent. A useful example that is easy to perform is the appearance of a rippled flag. It is trivial to make a "perfect" flag: Merely use an image map to apply a logo or graphic to a simple rectangle. It is also easy to add ripples or waves to the flag fabric, but without texture tacking the image won't follow along, and the effect looks wrong.

The new version of Imagine enables you easily to achieve a convincingly real effect. Imagine defines deformations and surface attributes in its Detail editor. Building the flat flag is very easy, as the program has a set of primitives that include a flat rectangle made of many small triangles. This is exactly what you want, since the small triangles let you bend the surface to make the ripples in the fabric.

To produce the basic flat flag, you use the Add Primitive menu command to tell Imagine to build an object with the properties you want. A plane of size 150x100 with 30x20 segments produces the desired rectangular shape. Mapping this with a logo image (or whatever you like) is also very easy (and identical to the way previous versions did it). Just enter the Attribute requester and add an image map (specifying your image filename). Imagine's default image options happen to be exactly what you need in this case; the program colors the surface of the flag and even autosizes the image to fit neatly over the full surface. You can then use Imagine's Quickrender routine to preview the object and make sure the basic setup is correct.

Now think of this basic object as the "main" state of the flag. In adding ripples to the flag, you want to make sure Imagine looks at the flag *as it is currently defined* when it colors the surface, even when the fabric is later wrinkled. By selecting the option labeled "States...Create" on the States menu, you tell Imagine that the current pose is one it should remember, as there will be reference to it later. Imagine asks what information the state should store; you can have it remember the object geometry, the surface appearance, or the hierarchical pose. You want it to remember the shape and appearance, so you select the first two options. Imagine also asks for a name for the state (you might call it "Main").

Once a state is defined and labeled, you can tell Imagine to refer to that state by name when applying the image to the flag. This is easy to do. By going back to the attribute requester, you can select the applied image and click on the Info button to view (and edit) its definition. A field in this requester labeled Lock State instructs the program to use a saved state (like that you just defined and called Main) on which to base the surface attributes. By simply typing "Main"

into this field, you instruct Imagine always to tack the surface attributes to the object, even when the geometry is manipulated.

Making It Fly

Now that you have the basic state saved and Imagine knows to use it for the applied image map, you need to make the rippled version of the flag. There are several ways to do this—all of them equally correct. Anything is allowed in manipulating the shape of the object as long as it doesn't add or remove points to or from the object. You can manually change the position of vertices, use built-in functions to taper, twist, or shear the object, or use a new feature called Appliqué, which can be quite useful for certain kinds of deformations.

The Appliqué function lets you use an image map to perturb the surface of an object, the grayscale of the image determining the amount of perturbation. To make the ripples for the flag, I used a paint program to draw some irregular gray stripes with very soft gradients in between. Drawing the "height" of the ripples in a paint program is a lot easier than manually moving vertices in Imagine's editors. Luckily, the Appliqué function is simple to use; there are several controls (defining the mapping Imagine uses), but, as with the logo image previously added to the flag, the default values Imagine defines are perfect for this application.

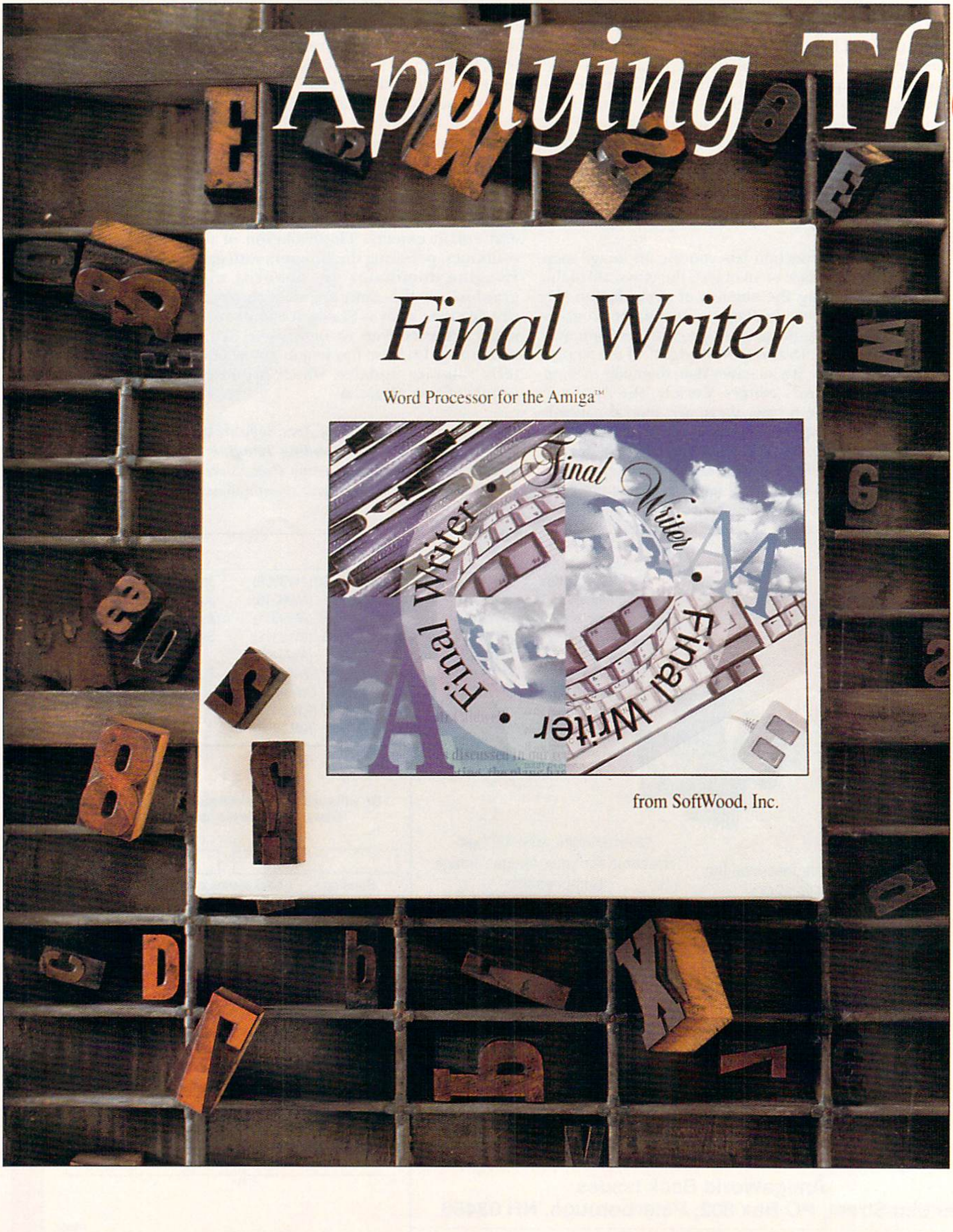
Imagine has to think for a few moments (and read the image from disk), but then a waved variant of the flat flag is produced. Again, anything you do to change the shape of your object is fine; Imagine offers a slew of manipulation methods, from magnetism to jittering, and all will work. The beauty of using States is that any shape changes you make to the geometry are acceptable, for Imagine remembers the state that it will need to properly map the surface.

Surprisingly, this is all that's necessary to produce the final flag. When you defined the Main state, Imagine was told all that was needed in order to produce the correct output. You can use Imagine's Quickrender function to preview your surface.

Imagine's abilities have been refined in the 3.0 release, and the addition of States is just one of several enhancements. The evolution of this software continues, polishing the program with each iteration. Imagine dominates the hobbyist niche of 3-D graphics on the Amiga, and with the addition of new features such as States, it compares favorably in many respects even to LightWave 3D. Even more promising, Impulse has begun a new policy of quarterly software updates, which promises a regular supply of new magic. ■

Steven Worley is president of Apex Software and author of the popular book ***Understanding Imagine 2.0****. Contact him c/o Apex at 405 El Camino Real, Suite 121, Menlo Park, CA 94025, or via e-mail: spworley@netcom.com.*

Applying The



PHOTOGRAPHED BY ED JUDICE

"Final" Touch



The latest release of the leading Amiga word processor sports a host of impressive new features (see sidebar for details)—some of which make Final Writer 2 the rival of many full-fledged desktop-publishing programs. Here's a hands-on DTP newsletter project to help prove the point.

"MORE THAN JUST a word processor" is a description that has always characterized Softwood's Final Writer. With its ability to create multiple-column documents—complete with pictures, indexes, paragraph styles, and many other elements—it approaches the power and flexibility of many Amiga desktop-publishing programs. Following the release of version 2 earlier this year, Final Writer has staked an even greater claim to that "more than" cachet when it comes to DTP capabilities. (For a rundown of some of the new features in release 2, see the sidebar mini-review on p. 25.)

Although the newsletter project outlined in this tutorial will work with any version of Final Writer, it was specifically designed with release 2 in mind. If you have an earlier version, some of the operations covered in the tutorial may not function properly. Also, while this tutorial will work with any Amiga having at least 2MB of RAM, if you're using an Amiga with *only* 2MB, you may have to run Final Writer in a lower resolution with fewer colors in order to access all the features mentioned here. In addition, the project assumes that you've installed all the fonts and clip art supplied on the Final Writer distribution disks. If you have access to CompuServe or GEnie, you can download the files used to create this newsletter and employ them in conjunction with the tutorial. If you don't have access to either of these services, you can still substitute a few generic text files of your own creation.

Now for our sample project: We'll use Final Writer's tools to create a simple four-page newsletter for a fictional company, Cheyne's Nautical Supplies. Mr. Cheyne distributes a monthly newsletter to all of his customers, informing them of sales, promotions, and other new information. The purpose of the tutorial is not to fashion this particular newsletter in its entirety, but to give you a solid understanding of how to create *any* newsletter or other multicolumn publication using Final Writer. That said, feel free to improvise and change the newsletter as you wish.

Laying the Foundation: Master Pages and Paragraph Styles

Start Final Writer, and when the program has finished loading, select the View | Paragraph Strip | Font/Style Strip menu option. This will replace the standard Final Writer tool strip with the new Font/Style strip. Next, turn on the following program options: View | Show Tool Palette, View | Rulers | Top and Left, View | Page Guides | Header/Footer, View | Page Guides | Columns and View | Page Guides | Edit Area. Once you've selected all these options, save your document under the name "NEWSLETTER."

After you've saved your work, select the Layout | Page . . . menu option. In the Page Setup requester that appears, click the Pages: Right Only button until it reads Left/Right. This will give you different right and left master pages for the newsletter. Return to the document window by clicking Save. Next, select the Layout | Section . . . menu option. From the Section Setup requester that appears, change the columns selection from one to three, then enter a value of 1.0 in both the Header and Footer fields underneath the Margins heading. Check Figure 1 to see what the Section Setup requester should now look like. If everything appears okay, click Save to store the settings and return to the main document window. You have just created your master pages, and now it's on to paragraph styles.

Paragraph styles make it extremely easy to format large amounts of text. To create paragraph styles, select the Layout | DefineStyle | Main . . . menu option. In the Main Styles requester that appears, click New, as ►

By Jeff James

you'll be creating a new paragraph style. To define the attributes of your style, go to the boxed area entitled Style Definition on the right side of the requester. First,

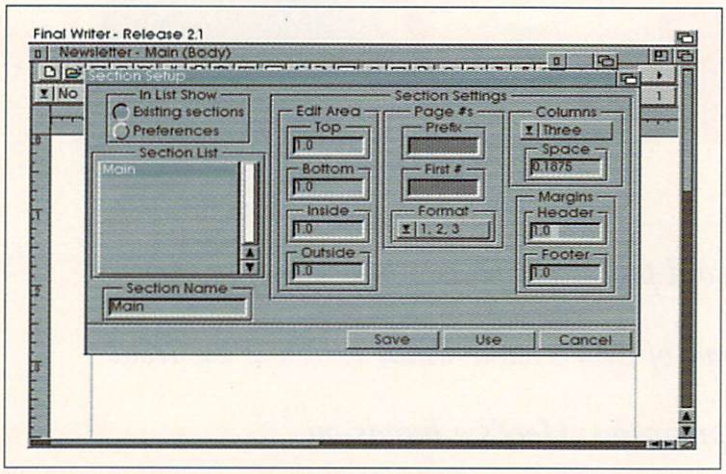


Figure 1. Use the Page Setup and Section Setup (above) requesters to create your master pages.

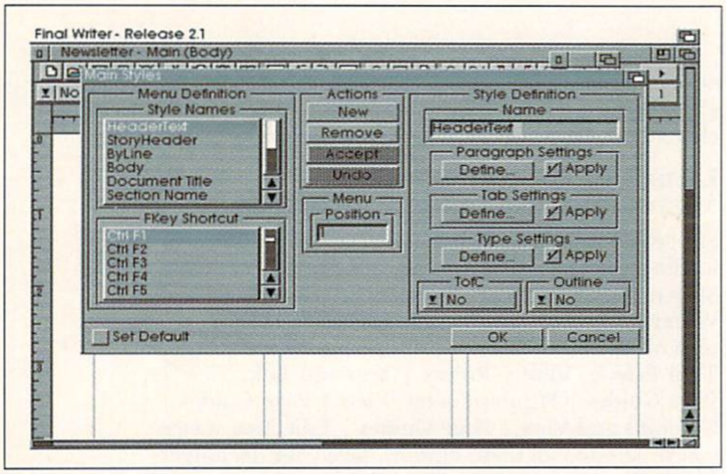


Figure 2. Final Writer's "paragraph styles" feature is one of the program's most powerful DTP tools.

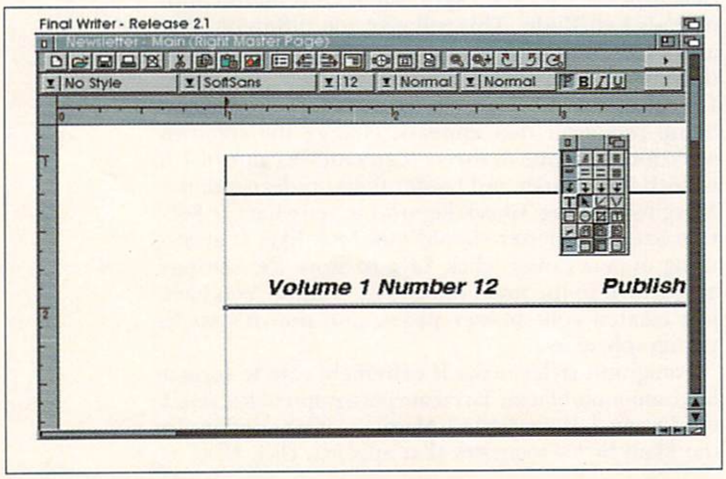


Figure 3. Headers are a snap with Final Writer's simple tools for editing master pages.

type the name HeaderText into the Name edit field. Next, select the Define Type Settings button to bring up the Type Specs requester. Here, click the Select . . . button to bring up the Select Font requester. From the file list displayed, select the font SoftSans_BoldItalic, which is found in the FinalWriter/FWFonts/SWOLFonts directory. Enter a value of 10 points into the Size field, then accept the rest of the type-specification settings by clicking OK.

Returning to the Main Styles requester, select CTRL F1 as the FKey shortcut for this style, then enter a value of 1 into the Menu Position edit field. Click Accept to save the paragraph style you have just created. Figure 2 shows what the Main Styles requester should now look like. Now that you know how to create paragraph styles, create three more styles following the same procedure outlined above, using the following style names and values. Remember to click Accept after entering data on each of these paragraph styles.

Style Name: StoryHeader
Typeface: SoftSans_BoldItalic
Size: 14 points
FKey: CTRL F2
Menu position: 2



Style Name: ByLine
Typeface: SoftSans
Size: 10 points
FKey: CTRL F3
Menu position: 3

Style Name: Body
Typeface: SoftSerif
Size: 10 points
FKey: CTRL F4
Menu position: 4

Headers, Footers, and Masthead

Click the right Master Page button in the tool palette to begin editing the right master page. Once the master page appears, point and click in the boxed area at the top of the screen—the header. Select the Text tool from the tool palette and then type the following text, inserting a tab when the [TAB] symbol appears: Volume 1 Number 12 [TAB] [TAB] Published by Cheyne Nautical Supplies [TAB] December 1994. After doing so, highlight the text with your mouse and then select the HeaderText style from the Font/Style strip. The text will change to match the specifications of the selected style. With the text still highlighted, click the Center Text tool in the tool palette.

Now draw a few lines to accent the text. Select the Graphics | Settings | Lines . . . menu option. In the Line Settings requester that appears, select a black line with a thickness of 1 point and then click OK to return to the main document window. Using the left and top rulers as your guide, select the Horizontal Line button—located on the tool palette—to draw a continuous line starting 1.25 inches down the page at the left margin, and continuing across to the 7.5-inch mark on the top ruler. This line should stretch from the left margin to the right margin. Now create another line just under the text. Move the cursor

down the page to the 2-inch mark at the left margin, and then draw the line so that it is parallel to the line we created earlier and ends at the same location. (See Figure 3 for these results.)

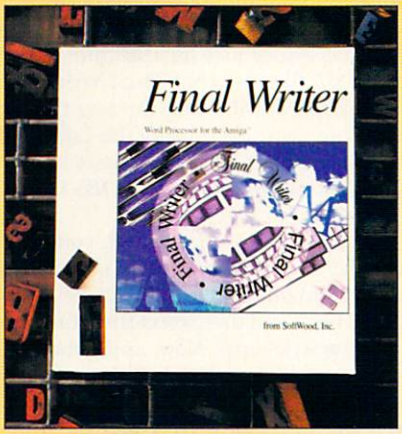
Now edit the footer of your right master page. Scroll down to the bottom of the screen and draw another 1-point black line, starting at 9.25 inches down the page and continuing across to end at the 7.5-inch mark—the right margin. After doing so, insert your text cursor directly below that line—at about the 9.5-inch mark—and type: Cheyne's Nautical News [TAB]. Immediately after the tab, use the Edit | Insert Item | Page Number menu option to insert a page number, and then manually type another tab character. Highlight the text, assign the HeaderText style to it, and then right-justify the text.

Having finished with the right master page, select the left master page and repeat the above steps. The only difference between the left and the right master pages will be the location of the page number and accompanying text in the footer. Use the format [TAB] Edit | Insert Item | Page Number, and then type Cheyne's Nautical News. Instead of right-justifying the text, left-justify it. This will ensure that the page number will always be on the outermost edge of the page, regardless of what page the reader is looking at (see Figure 4). Once your work on the master pages is done, return to the main document editing screen. While you will see your editing changes for the master pages on this screen, note that you cannot do any editing here. The results of your editing, however, appear automatically on every left and right page in the document, regardless of the document's length.

For the publication's masthead, you won't want to type the text directly into the document. Instead, use Final Writer's Text Block feature to create a separate text object. To do so, click the Text Block icon found in the floating tool palette. In the Text Block Settings requester that appears, type the words Cheyne's Nautical News into the Content edit field. Then click the left button under the text-flow options. Because you want to create a distinctive masthead for the newsletter, you can use a unique size and style of font. Select the Define button to bring up the Type Specs requester, and then click the Select button to bring up the Select Font requester.

For your example, now choose the font called Quadrat_Bold_Italic that's located in the FinalWriter/-FWFonts/SWOLFonts/Serif directory. Returning to the Type Specs requester, enter a value of 36 into the Size edit field and then select blue as the font color. Click OK to accept the changes and return to the main document window. The text will now appear on screen, ready to be moved into the correct location. To do so, select the ►





Final Writer, Release 2

The latest version of the Amiga's top word processor is better than ever.

SO WHAT DOES Final Writer, release 2 ($199.95) offer that the original Final Writer didn't? For starters, Softwood has heeded the advice of software reviewers and customers alike by adding an Undo/Redo feature. You can now experiment with your document without having to worry about destroying your hard work through an ill-timed deletion or other mistake. The Redo option adds yet another layer of protection, allowing you to return to your document at the point where you were prior to selecting Undo.

As mentioned in the accompanying tutorial, Softwood has also added tool palettes and a Font/Style strip to the new Final Writer. With the Font/Style strip, changing fonts, point sizes, and styles is as simple as pointing and clicking on the appropriate button. Instead of having to burrow through multiple menu layers to add bold, italic, or underline effects to your text, three clearly marked icons on the Font/Style strip provide immediate access to those features: Simply highlight the text you want to alter and press the requisite button.

Tool palettes are movable, resizeable program windows that allow you to add a multitude of user-defined icons without having to worry about running out of space on the main toolbar. The user-button palette can contain user-defined buttons connected to macros and other program elements, making it even easier to customize your word-processing environment to suit your needs. Palette windows will prove particularly useful because of Final Writer's ability to remember the size and location of any palette windows after you exit the program. When you return to the program, the palette windows will be restored to their original locations, ensuring that you'll have a consistent program environment in which to write your Pulitzer-winning publication.

Although master pages and paragraph styles were included in the initial release of Final Writer, Softwood has made both even more useful and easier to access in release 2. You can now easily select body, left master, or right master pages via a handy submenu in the revised View menu. Similarly, paragraph styles can now be selected more easily using the new Style palette or Font/Style strip. The View menu has a number of other new additions, including menu options to hide/reveal page guides, rulers, and button strips.

Given the aforementioned new features (along with a few bug fixes), it's clear that Softwood intends Final Writer to be an evolutionary product meant to take on such PC word-processing goliaths as WordPerfect 6.0 and Microsoft Word for Windows 6.0. The fact that release 2 improves significantly upon what is an already superlative Amiga product demonstrates that Softwood is well on its way to achieving that goal. □

—JJ

Pointer tool from the floating tool palette and move the text in between the two black lines at the top of the page, placing the masthead above the volume and date information entered previously. To add some extra visual flair to the masthead, use the line-drawing tools to draw a pair of black lines underneath the masthead, with a space for the descending "y" to poke through (see Figure 5).

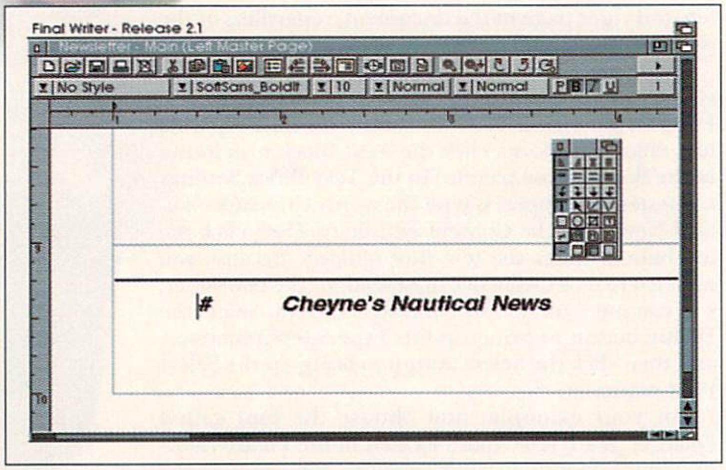


Figure 4. Like headers, footers are also easy to create with the master-page editing tools.

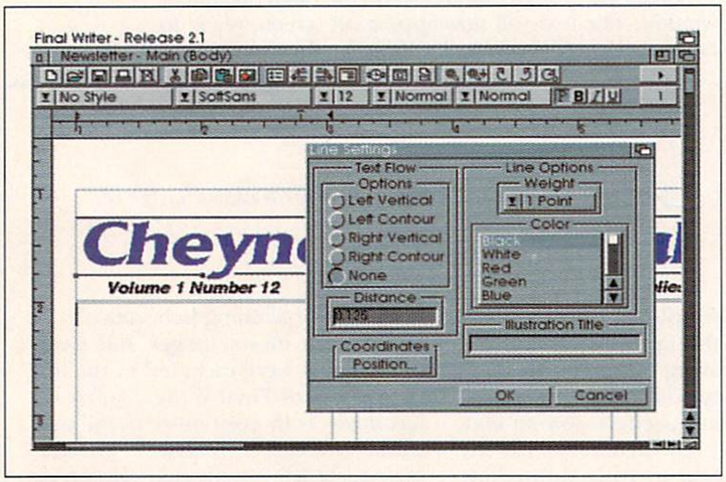


Figure 5. You can create distinctive mastheads with the program's large selection of font types, styles and sizes.

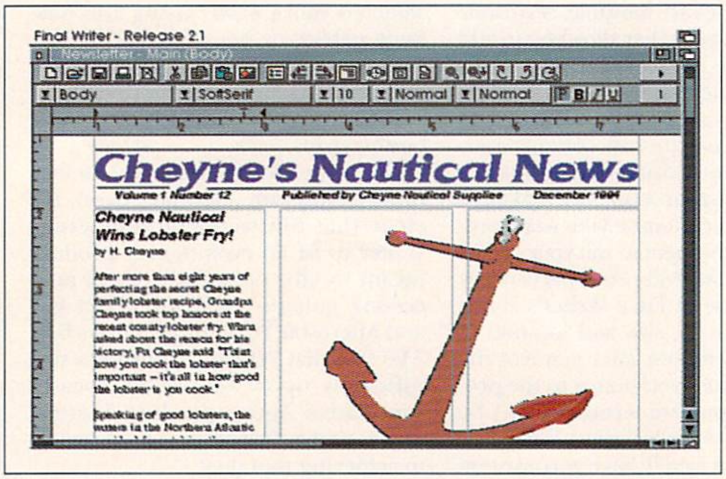


Figure 6. Things are looking good as the main elements of the opening page fall into place.

Text, Pictures, and Bullets

Now that you've finished the master pages, styles, and masthead, you can begin importing the text and graphics that will fill out the document. To begin with, import an eye-catching graphic for your cover, something related to the publication and the audience you're attempting to reach. Select the Graphics | Import . . . menu option. Double-click the Totem drawer, then select and load the anchor.epsf image. Once the image has loaded and appeared in your main document window, double-clicking the image will bring up a requester entitled Imported Graphics Settings. In this requester, change the value in the distance field from 0.125 to 0.3 inches. Select the left Vertical Text Flow button, then click OK. Move the image to the upper right of the page so it fills the top of the second and third columns. There! you've just successfully added a graphic to your newsletter. Now you can import some text to go along with the anchor graphic.

To add text, place the cursor in the upper-left corner of the first column on the first page. Select the File | Open . . . menu option, then use the Open Document requester to find the text you're looking for. If you've downloaded the necessary files for this tutorial, select the LOBSTER.TXT file. Another Final Writer document window will open containing the text file. Copy the text from this new window—using the Edit | Select All command, followed by Copy—and paste it into the first column. When finished, close the LOBSTER.TXT document window.

Now that the text has been imported, you need to format it correctly: This is where the paragraph styles come in handy. Highlight the headline "Cheyne Nautical Wins Lobster Fry!" and then select the StoryHeader style from the Font/Style strip. Now, apply the ByLine style to the byline and then the Body style to the rest of the text. (See Figure 6 for the finished result.)

You're now ready for the next piece of text. Using the File | Open . . . menu option again, select and load the SALE.TXT text file. After the document has loaded, copy it from the SALE.TXT window and paste it immediately after the end of the lobster story on page 1. After the text is pasted, highlight the words Christmas Sale! and assign the StoryHeader style from the Font/Style strip. This article consists of a short list of sale items, followed by the sale amount. Since Mr. Cheyne wants these items in a bulleted list, highlight all the items in the list and select the Layout | Effects | Bullet menu option.

Congratulations! You've successfully completed the first page of the newsletter. With the skills you've learned, you should easily be able to finish the remaining pages of *Cheyne's Nautical News* or any other publication of your choosing. ■

*Jeff James is Assistant Editor of the digital magazine **Interactive Gaming**. Write to him c/o **AmigaWorld**, Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

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AW Shucks!

Our apologies to ***DevWare*** for neglecting to include its OctaMED Professional 5 in October's "MIDI Sequencer Jamboree." The best-selling music program was reviewed in Jul. '94, p. 58.
In addition, in our Nov. issue, we printed the incorrect phone number for ***Intangible Assets*** (the number that appears is a FAX line). The correct number is 610/853-4406. We apologize for any inconvenience.

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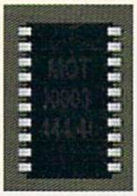
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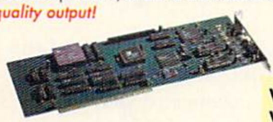
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ACCENT ON GRAPHICS

70

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

By Joel Hagen

Display Tips for Exhibition—Part 2

LET'S CONTINUE WITH the exploration begun last month of ideas for gallery-oriented computer art. While previously we looked at physical display ideas for sculptures and "installations," now let's focus on the computer presentation itself in such pieces. Even if you have no exhibitions planned, you may find useful tricks to try with your presentation software.

If your computer installation is sculptural, it can be effective to repeat elements of that physical sculpture on the monitor in digital form. For example, in a recent show several of my sculptures of imaginary skulls were arranged with old photographs, chemical bottles and other details around the video viewer illustrated in "Accent" #69. The Amiga display that ran on the viewer occasionally showed close-up digitized details of the skulls. This helped unify the exhibit and added to the mystery of the physical objects. You can use image-processing software to enhance details from the sculpture or even nearby paintings. If you move your installation to a new location, it is also easy to incorporate site-specific images into the display. These techniques can control the attention of the audience to your advantage.

Breaking the Rules

There are many effective yet unconventional ways to use computers in an installation. Because your artistic goals may require techniques that are contrary to conventions about conveying information to a viewer in a corporate presentation or an information kiosk, you may want to reach your audience at a more intuitive, less literal level. To do this, you might simply use the computer to display sequences of full-screen color that are seen only as reflected light within a sculpture. Or, you might just use the computer to drive an old daisy-wheel printer in an endless rattling printout. Or maybe you could play sampled sounds to add to the atmosphere of a piece. Even your image display may depart from conventional expectations. You might find that blurred images and animations best convey your idea. Don't feel so bound by the power and clarity of computer graphics that you lose sight of the scope of artistic options available to you.

Change and motion are two of the most powerful tools to hold the attention of your audience. A person is more likely to keep watching your display if the images move than if they are simply displayed as a slideshow. This doesn't mean that they need to be animations in a conventional sense. They just need to change or move. For example, you can use image-processing software to create a blurred version of an image. In your installation, use your presentation software to slowly dissolve from the blurred image to the original version. This simple trick will hold the attention of the viewer as the image seems to gradually come into focus.

Another trick is to have the image move across the screen as though a camera was panning it. One way to do this is to create an image larger than the screen. Use your presentation software to grab screen-size chunks of that image from a hidden memory buffer. The accompanying illustration shows this idea on an orbital Mars photo. Each blue rectangle represents a 640x400-pixel block being grabbed from the larger image, then displayed. To someone viewing a smooth and rapid succession of these screens, it feels like an animation of the planet's surface passing across the field of view. Revealing an image gradually instead of all at once heightens the curiosity of the viewer.

A Random Sense of Order

For conveying a feeling of change in a display, perhaps no tool is as handy as the random-number generator in your presentation software. I employ random numbers in nearly every aspect of my computer installations. At the simplest level, you can display images in a

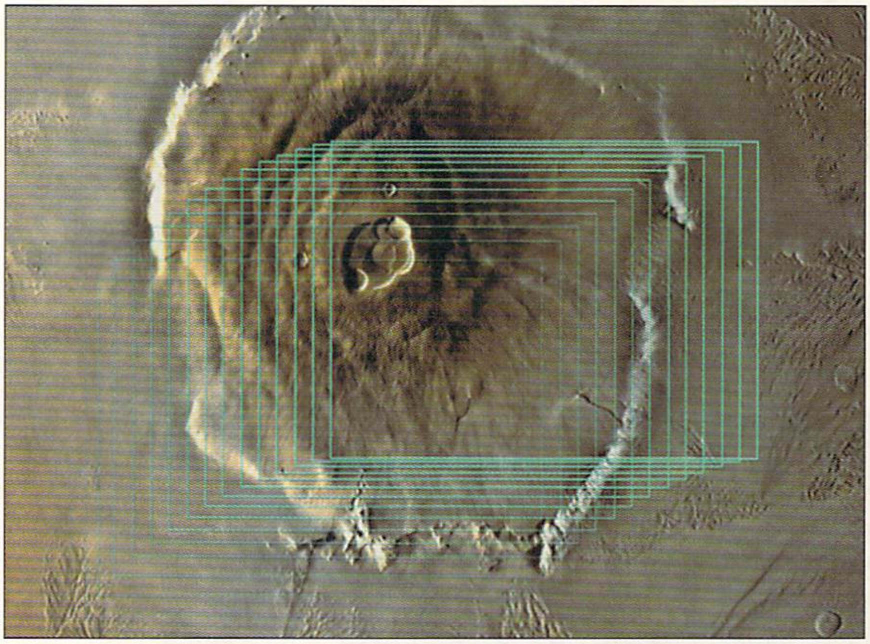
More presentation techniques for creating integrated—and interesting—display possibilities for your computer art.

random order to take away some of the predictability. Once you begin working with randomness, you will find more and more interesting applications.

In the illustrated motion across the Mars image, each of the blue rectangles can be specified by its x and y coordinates. To achieve a straight horizontal pan over the image, you need only add a constant such as 1 to the x coordinate each time you grab a new rectangle. For a more interesting motion, you might try randomly adding –1, 0, or +1 to both the x and y coordinates before each grab. This creates a meandering drift. Were you to simply add any random number to the coordinates, the changes would lack continuity and there would be no illusion of motion. You need to constrain the randomness to a chosen range of numbers. In this case the trick is to generate random numbers zero through two, then subtract one from the result before adding it to a coordinate.

Suppose you want to stack the deck in favor of having +1 crop up more often than 0 or –1? One way to do this is to generate –1, 0, +1, and +2. After the number is generated, use a conditional to evaluate the result. Make any number greater than +1 equal to +1. In this way, you can create movement through an image that wanders around interestingly, but travels predictably in a certain direction. You can also use a conditional to prevent moving off the screen in the course of a random walk (if x is greater than 639, then x equals 639). These techniques are very economical in terms of file size and storage space. You can create a ten-second or ten-minute random animation within an image that would be unthinkable as an animation file. This makes richer presentations possible in limited environments.

You can randomize any aspect of a display that gives you access to its parameters. You can randomize color, transitions, wipe direction, text, and so on. One of the more powerful display elements you can randomize is sound



Each blue rectangle above represents a screen-size block of the large Mars image. If these blocks are grabbed in a smooth sequence from the hidden image and displayed, the viewer has the impression of the image drifting smoothly past the screen. Tricks like this can add interest to computer displays.

play. For example, you could enhance the atmosphere of an installation with the sound illusion of a continuous storm. You might draw randomly from a pool of several wind samples, frogs, rain sounds, and so forth. Layer these into the Amiga's four audio channels at random intervals with an occasional thunder clap, and you have created a nonrepeating storm that can play for days. Sampled voices can produce very spooky results when layered randomly into all the sound channels. If you have access to sound-play parameters, you can even randomize the pitch and amplitude for infinite effects from a few samples.

If your presentation software lacks some of these features, you might try using Basic or ARexx. In any case, Amiga installation sculpture can be a great option for gallery exhibition, and random numbers can break up the predictability of your display. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope for a reply.

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From p. 12.

TypeSmith 2.5 could benefit by having more menu items selectable from the keyboard. The program also assumes that the only place you would store Amiga bitmap fonts would be in the Fonts: directory, so it provides no way to select another directory. This is unfortunate, for many of us would like to store scanned fonts in a work-in-progress location separate from our main font drawers.

Conclusions

The major changes to TypeSmith 2.5 make it an even more valuable tool for font users. Most of the bugs have been fixed, and the interface has been refined and polished. It's hard to fault the program. It does everything it's supposed to do. The addition of TrueType and IFF RFF support and the ability to print character sets are alone worth the price of admission. If you don't think you have a use for a font-management program, you'll be surprised by TypeSmith 2.5. It's a powerful tool that can simplify things for the desktop publisher, videographer, or graphics artist in you.

—*Rick Manasa*

Live!2000 Update

Argus Associates, $595

A2000/A3000/A4000.
Hard-drive installable.
Not copy protected.
2.x/3.x compatible.
Accelerator compatible.
***Installation*: Easy.**
***Minimum system*: 1MB, video source.**
***Recommended system*: Hard disk, 6+MB.**

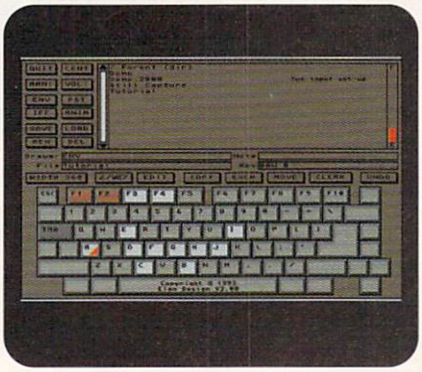
Updated software and hardware for Live 2000!

When the Amiga was launched in 1985, the late Andy Warhol used an eye-grabbing product called Live! (A^2 Distributions) to perform real-time video processing, effects, and image capture. The product eventually fell out of development and quietly faded into oblivion. In recent months, however, A^2's former jack of all trades, Obert Sonsten, has resurrected the Live2000 board, some of its associated software, and software called InvisionPlus (Elan Design).

Amiga Trivia Time

Live!2000 is a Zorro II card with two composite inputs and pass-thrus. It performs a range of real-time effects such as color map, strobe, fade, and chroma key, all without the need for time-base corrected video input. It also digitizes still images or sequences as animations, and it performs a few image-processing operations. The system is limited to the Amiga's native display rates and HAM, interlace, overscan, and high-resolution (640x400, 16-color) modes.

The software part of the equation is Elan Design's InvisionPlus ($299), a graphical interface for the Live! effects. Using interactive programmable mouse control, InvisionPlus maps selected effects of images and animations to keys on the Amiga keyboard. Used in conjunction with Live!, InvisionPlus can capture images and animations.



InvisionPlus nicely complements the Live2000! hardware.

Numerous Updates

The hardware update for the Live!2000 board allows it to now be used with all versions of Workbench and in Amiga 3000s and 4000s. A necessary fix consists of replacing one socketed chip (an easy procedure), cutting the leg of one chip and soldering a jumper from there to the leg of another. The cut-and-solder work, while not especially difficult, does require rather fine tools and a steady hand. If you've never attempted this sort of precise work, take Argus Associates up on its offer to do the update for you. The Live! software update and the InvisionPlus patch are available on disk.

Argus Associates is continuing to update the Live! board and the InvisionPlus software, and is exploring the possibilities of selling updated packages seperately. It would also like to produce updates for Focus Video (image processing) and Mondo Stereo (3-D stereo-image creation), as well as for other products that were under development at A^2 but never released.

Live! Performances

The Live! board plays host to a number of other interactive software products that use its real-time video-processing power to create interactive environments. Two of these, Mandala (Vivid Group) and Cyberscape (Tensor Productions), have been used extensively by performance artists, dancers, television producers, mechanical and structural engineers, and environmental artists. The performers or participants can interact in real time with the Amiga, producing music and sounds, showing pictures and animations, and in general having a great time.

The best part is that putting an interactive system like that together is quite affordable. My hat is off to Argus Associates for bringing Live! and InvisionPlus into the market again and making them available to users of the latest versions of the Amiga operating system.

—*Michael Hanish*

Image Mirror

Seven Seas Software, $149

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Hard-drive installable.
Not copy protected.
Accelerator compatible.
***Minimum system*: 2MB, 10MB hard-drive space.**
***Recommended system*: 4MB, AGA or OpalVision.**

Basic image processing.

Seven Seas, the makers of MathVision, has introduced a new entrant in the field of Amiga image processors. While Image Mirror offers only a limited number of tools, it sports a unique, icon-based, drag-and-drop interface. Its tools are mainly of the composite variety, including few of the standard adjustments (such as gamma and contrast) one would expect to find in an image processor.

Moving Icons

Just about every function in Image Mirror works by dragging one icon onto another. After you have loaded an IFF image onto the Table window by double-clicking the LoadPic icon, you drag the image's icon onto a tool to perform the desired operation. When done, you can drag the image to icons that discard, save, rename, or print the file. To view the image, just drag its icon onto DrawPic, which displays it in HAM6, HAM8, OpalVision, or the Toaster, depending on your hardware. Image Mirror loads any kind of IFF image, though it saves only in the IFF24 format. While you can choose to work with regions inside an image, the

Continued on p. 46.

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CD-32

We have acquired the last batch of CD-32s in the U.S.A. These are GENUINE U.S. machines, NOT IMPORTS as others are trying to sell.

$299.95

NEW & boxed w/all manuals & cables, 90 Day W'ty. Complete w/Sleepwalker & Pinball Fantasies. Can't find an A1200? Why not consider a CD-32 with the SX-1 module above. Call for details.

Joystick Bundles

The following Joystick Bundles were originally priced at $99.00, NOW ONLY $22.95 - Your Choice: *Suncom TAC 3 or Suncom TAC 30 w/Theme Park Mystery & Killing Cloud software or Ergo Joystick w/Back to the Future 2 & SpaceWrecked*

Hard to Find Amiga Items

A520 Video Adapter NEW & Boxed from CBM	$44.95
501 512K RAM w/Clock	49.95
A2091 SCSI Controller w/Rev 6.6 Eproms	89.00
OS 1.3 Enhancer Manual w/Workbench & Extras disks	12.95
A2630 25Mz Accelerator NEW, 68030, w/4Mb RAM, & Rev 7 Eproms	429.00
A500 Users Manual from Commodore	9.95
Quantum 52Mb LPS SCSI Hard Drive	109.95

SX-1

SX-1 CD-32 Expansion Module by Paravision
In Stock!: $239.00

SX-1 Keyboard: $44.95

Options:
1Mb RAM $49.95 - 4Mb RAM $165.00
8Mb RAM $319.00
40Mb HD $149.00 - 85Mb HD $199.00
170Mb HD $279.00
250Mb HD $369.00

A3640 Accelerator

We have acquired a limited supply of the A3640 Accelerator. This is the accelerator used in the A4000 040 & the A3000 Tower 040. It includes a RC68040 running at 25Mz and is ready to plug into any A3000 Tower or A4000-030.

$449.00

Overdrive-CD

Now available, Archos' Overdrive-CD, also known as "Zappo". The World's first PCMCIA slot CD-ROM Drive for both the A600 & A1200. Features include:
- Double Speed, 300Kbs
- Emulates CD-32 CD-ROM device
- Runs most CD-32 software
- Multi-session, Photo-CD compatible
- Plays Digital-Audio & Photo-CDs
- Mix CD & Amiga Audio output
- File system compatible w/ISO9660, AmigaDOS, PC-DOS, & Mac HFS

$339.95

Last Chance Products

A1011 External Floppy Drive	$79.95
A10 Stereo Speakers	34.95
Mouse for CDTV, wired	16.95
Floppy Drive for CDTV	79.95
1402 12" Monochrome Monitor	79.00
1403 14" VGA Mono Monitor	139.00
1802 Color Composite Monitor	159.00

Miscellaneous Commodore Parts

A2286 1.2Mb 5.25" Floppy Drive	$45.00
Nameplate A2000	6.00
Nameplate A2000HD	6.00
Nameplate A600	6.00
Nameplate A1200	6.00
Nameplate A1200HD/40	6.00
Casework A1200 bottom	14.00
Casework A1200 top	14.00
Sheet A1200 insulation	6.00
Door A1200 RAM Exp. Mod.	8.00
Casework A4000 top	29.00
Casework A4000 bottom	29.00
Button A4000 power	7.00
Prog Disk Janus Amiga 2.1	9.00
Prog Disk Janus PC 2.1 3.5"	9.00
Cable Ass'y A4000 HDD	9.00
Cable Ass'y A2386SX PC	9.00
Cable Ass'y A2386SX NUX	9.00
Bezel A3000 front	8.00
Bezel FDD Cover 3.5" LT	8.00
DKB Tower for A3000 w/o ROM	19.00

Books

A1200 The Next Step	$26.00
A1200 Insiders Guide	26.00
Mastering Amiga DOS 3 Tutorial	31.00
Mastering Amiga DOS 3 Reference	31.00
Mastering Amiga DOS Beginners	27.00
Mastering Amiga AMOS	29.00
Mastering Amiga C	27.00
Mastering Amiga Printers	27.00
Mastering Amiga ARexx	31.00
Mastering Amiga System	31.00
Mastering Amiga Assembler	29.00
Amiga Assembler Insider	26.00
Amiga Gamers Guide	26.00
Amiga Workbench A-Z	27.00
Ultimate AMOS Book	35.00
ROM Kernel, 5 Book Set	109.00

Commodore Manuals

A2630 User Manual	$7.95
A2088 User Manual	7.95
A2286 User Manual	7.95
A2386SX User Manual	10.95
A600 User Manual	8.95
A600HD User Manual	9.95
A500 User Manual	9.95
A1200 Hardware Manual	19.95
A4000 Hardware Manual	22.95
A1000 Schematics & Exp Info	22.95
Prog's Guide to ARexx w/disks	14.95
A500/2000 Tech Ref Manual	22.95

Quantum Hard Drives

SCSI

170S 170Mb	$209.00
270S 270Mb	245.00
525S 525Mb	359.00
540S 540Mb	349.00
1080S 1.08Gig	679.00
1400S 1.4Gig	899.00
2100S 2.1Gig	1199.00

IDE

127AT 127Mb	$165.00
170AT 170Mb	199.00
270AT 270Mb	239.00
420AT 420Mb	289.00
540AT 540Mb	339.00
730AT 730Mb	429.00

We also carry Micropolis, Seagate, Conner and Maxtor hard Drives. Call for current pricing and models.

Orders 800-932-6442

Info 610-586-5701 Hours: Mon-Fri 9 to 6
FAX 610-586-5706 Sat 10 to 4 - Eastern

Software Hut

SUPER SPECIALS

DKB MegAchip
Expands your Amiga 500 or 2000 to 2Mb of Chip-RAM, great for all graphic applications, including the Video Toaster. Included is the DKB board w/1Mb of additional Chip-RAM and a 2Mb Agnus. Complete with manual for easy installation.
$199.95

DKB A2632 RAM Board
A 32-bit RAM Expansion Board for the CBM A2630 Accelerator Card. Allows 32-bit RAM beyond 4Mb, expandable to 112Mb using 32-bit wide SIMMs. Faster than RAM on A2630 and full Burst Mode support. Perfect for Video, Graphics, Animations, and DTP.
$189.00
Options:
Add 4Mb RAM - $159.00
Add 8Mb RAM - 309.00
Add 16Mb RAM - $599.00
Add 32Mb RAM - $1179.00

DKB A1240 Board
A multi-function board for the Amiga 1200. includes: 68030 for up to 6 times faster speed; room for up to 128Mb of 32-bit RAM using one industry standard SIMM; clock-calendar. Add an optional Math-Co up to 50Mz. Features an expansion connector for an optional SCSI controller.
1240 40Mz EC CPU - $249.00
1240 28Mz RC CPU - $199.00
Options:
Add 33Mz 68882 FPU - $79.00
Add 50Mz 68882 FPU - $109.00
Add 1Mb RAM - $49.00
Add 2Mb RAM - $89.00
Add 4Mb RAM - $159.00
Add 8Mb RAM - $309.00

Power Point HD Internal Floppy
Accepts DD 880K disks or HD 1.76Mb disks. Compatible with PC disks. 1 Year Warranty. Requires Workbench 2.1, or higher.
$139.00

Power Point HD External Floppy
Same features as above model. Connects to external disk drive port of any Amiga. Perfect for users who lack an internal bay.
$145.00

The Clock
Installs internally in your A1200 on the clock header of the Motherboard. Automatically recognized by AmigaDOS.
$23.00

Chinon Internal H. D. Floppy Drive
Now available, from Commodore & DKB, is the Chinon 4015 HD Floppy Drive. This is the same unit as used in the Amiga 4000, now also compatible with the A2000. Drives can be used as either df0: or df1: (or buy two and use as both). Complete with installation instructions.
$139.95

DKB A3128 RAM Board
A 32-bit RAM Expansion Board for A3000/4000 owners. Allows 32-bit RAM expansion to 146Mb using industry standard 4, 8, 16, & 32Mb SIMMs. Easily installs in any slot. A MUST HAVE for Toaster users.
$249.00
Options: Same as A2632 on left.

DKB A1202 Board
A multi-function board for the A1200. Provides the max Fast-RAM expansion possible plus a clock-calendar. The 2 sockets allow 1, 2, 4, or 8Mb RAM using standard 32-bit SIMMs. Optional Math-Co can speed up math-intensive programs as much as 10 times, or more.
1202, no FPU, 0K - $99.95
Options:
Add 16Mz 68882 - $32.95
Add 25Mz 68882 - $57.95
Add 33Mz 68882 - $74.95
Add 40Mz 68882 - $134.95
Add RAM - Same as A1240 on left

KwikStart 2
Allows A1000 owners to install 2 different Kickstart ROM chips. Upgrade to latest OS without using system memory yet you can still boot from disk-based Kickstarts.
$54.95
Options:
1.3 OS ROM - $19.95
2.04 OS ROM - $29.95
3.1 OS Kit - $159.00

DKB 4091 SCSI Controller
High-Performance, DMA, Fast SCSI-2 controller for Zorro3 expansion slots. Includes SCSI internal connector, ribbon cable, & hardware to install a 3.5" HD on the board and a high-density SCSI-2 external connector.
$349.95

Super Bundle
Purchase the 4091 and 3128 at the same time for a special price of:
$479.00

Disk Expander
This software doubles the capacity of your floppy or hard drives. Easy to install and works without notice, in the background. Compression ratios very from 30% to 70%.
$39.95

Education Software

Fun School Math, ages 7>11	$18.95	Mavis Beacon Teaches Typing	33.00
Fun School 3, ages 5>7	18.95	Mickey's Jigsaw Puzzles	35.00
Fun School 3, ages 7+	18.95	Mickey's Memory Challenge	35.00
Fun School 4, ages under 5	18.95	Mickey's 123s	35.00
Fun School 4, ages 5>7	18.95	Mickey's ABCs	35.00
Fun School 4, ages 7>11	18.95	Memory Challenge Series One	29.00

GVP — NEW LOW PRICING

GVP 030 Combo
Through a special purchase with GVP, we have acquired the last batch of this popular board for the A2000. It features a Motorola 68030 CPU & 68882 Math Co-Proc.,both running at 25Mz, and 1Mb of 32-bit RAM. You can add up to an additional 12Mb of 60Ns fast RAM. Included is a built-in SCSI interface on the card. 90 Day Warranty. Hurry as supplies are limited.

GVP Combo 030/25Mz/1Mb	**$469.00**
Additional 4Mb 60Ns RAM	**219.00**
GVP HD Mounting Kit	**39.00**

A4000 G-Force 040-40
GVP puts a 40Mz Motorola 040 in your Amiga (030 or 040) & couples it with, up to, 32Mb of super fast SIMM32 memory. directly controlled by this blazing processor.

G-Force A4000 040/40/40/4Mb	$989.00
GVP SIMM 32 4Mb 60Ns	219.00
GVP SIMM 32 16Mb 60Ns	999.00

A2000 G-Force 040-33 Combo
The ultimate combo: Motorola 68040 processor blazing at 33Mz with room for up to 64Mb of fast 32-bit RAM; integrated SCSI2 interface; bonus IOExtender for an extra parallel and buffered high-speed serial port.
G-Force 040/33Mz/4Mb $1049.00

4008 SCSI2 Controller
Add up to 7 SCSI devices to your Amiga and smile. Provides room for up to 8Mb of 16-bit RAM.
GVP 4008 SCSI Controller $149.00

TBC Plus
This pro quality (CCIR-601), all digital time-base-corrector uses state-of-the-art 8-bit 4:2:2 video processing. Plus, it provides a real-time video frame-grabber and 16.7 mill color frame-buffer; a full SMPTE/EBU time-code receiver/generator and a comb filter is available; will transcode composite and Y/C inputs; a 3 channel video input switcher (in composite and Y/C) ic provided; and programmable video special effects.
GVP TBC Plus $599.95

G-Lock
Connect to the world of video with our built-in transcorder to convert input video to composite, Y/C, RGB, or YUV outputs! Includes dual-input audio panel. Full support AGA and "classic" Amigas. SCALA users can purchase an EX module from SCALA.

G-Lock - NTSC Version	$299.95
G-Lock - PAL Version	319.95

EGS 28/24 Spectrum
Go beyond AGA Graphics with this real-time, 24-bit, true-color graphics enhancer. Programmable resolutions up to 1600x1280, 800x600 in 24-bit. Includes a custom pass-through cable for single monitor use. Also includes EGS SpectraPaint, a GVP exclusive!
GVP Spectrum 28/24 EGS 2Mb $379.00

1230 Turbo
Accelerate your A1200 up to 50Mz. Room for: up to 32Mb of 32-bit RAM; an FPU; A1291 SCSI kit.

1230 SCSI Ser2 40Mz 4Mb	$399.00
1230 SCSI Ser2 50Mz 4Mb	599.00
1291 SCSI Controller for 1230	95.00
FPU 50Mz for 1230 Accelerator	115.00

DSS8+
This is the quietest 8-bit sound sampler yet made. New 3.0 software supports direct to disk (hard disk) recording and playback.
GVP DSS8+ Sound Digitizer $79.95

M-TEC Germany

Great New Amiga 500 & 1200 Peripherals

M-TEC RAM
This is a 2Mb RAM board for A500s. Mounts internally, in the trap door, and into your Gary IC socket, giving you 2Mb of additional fast-RAM. No soldering is required.
$139.95

M-TEC AT-500
This is a Hard Drive Sub-System plugging into the Amiga 500 expansion slot. Will hold any 2.5" or 3.5" Hard Drive and it has room to hold 2Mb, 4Mb, or 8Mb RAM on the controller. A unique feature is a physical switch allowing you to mount an additional internal Kickstart ROM, such as 2.04 or 3.1, and still keep whatever ROM is in your A500. Also, the unit has an ON/OFF switch to turn off the Hard Drive, if required.
M-TEC AT-500 w/No HD - $149.95
w/250Mb HD - $379.00
w/350Mb HD - $419.00
w/540Mb HD - $499.00
Options:
2Mb RAM Installed - $86.00
4Mb RAM Installed - 170.00
8Mb RAM Installed - $309.00
Kickstart 1.3 ROM - $21.95
Kickstart 2.04 ROM - $32.95

M-TEC 68020I Turbo System
This is the powerful, yet affordable, accelerator the average A500 user has been waiting for! Includes a 68020 CPU & 68881 Math-Co, both running at 16Mz. Also included is a SIMM socket for up to 4Mb of 32-bit RAM. The board attaches to your Motherboard with NO soldering. Install disk and manual are included.
$99.95
Options:
1Mb 32-bit RAM Module - $49.95
4Mb 32-bit RAM Module - $165.00

M-TEC T1230/28 RTC
This is the powerful, yet affordable, accelerator the average A1200 user has been waiting for! Includes a 68030 CPU and 68882 Math-Co, both running at 28Mz. Also includes is a SIMM socket for up to 8Mb of 32-bit RAM. The board plugs into the Trap Door with NO soldering. A SCSI port is also provided, allowing the use of a SCSI1 or SCSI2 HD, when this module is released in the near future.
$169.95
Options:
1Mb 32-bit RAM Module - $49.95
4Mb 32-bit RAM Module - $165.00
8Mb 32-bit RAM Module - $319.00

Video Products

Color Handscanner w/OCR software	$259.00
DCTV	299.00
DPS Personal Animation Controller	**Call**
Lightwave 3.5 Unbundled	529.00
Lightwave 3.5 Upgrade Kit	95.00
OpalVision w/Free Magic Lantern	429.00
Personal TBC 4	819.00
Picasso 2Mb	519.00
Retina 4Mb	519.00
Retina Z3	725.00
RocGen Plus Genlock	219.00
SuperGen SX	699.00
Toaster 3.1 Upgrade	649.00
Vidi 12 AGA	119.00
Vidi Amiga 12 RT	249.00
Vidi Amiga 24 RT	369.00
VLab Y/C	425.00
VLab Y/C External	469.00

AMIGA CUSTOM CHIPS

1Mb Agnus 8372A	$42.95
2Mb Agnus 8372B	44.95
Super Denise 8373	28.95
CIA 8520 Chip	16.50
CIA 8520 Surf. Mount Chip	25.00
Gary 5719 Chip	13.95
Paula or Denise Chip	18.95
1.3 ROM Chip	21.95
2.04 ROM Chip	32.95
2.05 ROM Chip	34.95
Super Buster Rev 11	65.00
W. D. SCSI Chip Rev 8A	35.00

PhonePak VFX 2.0
Fully integrated, allows unlimited phone mailboxes & private fax receiving. Send faxes from any program that prints; call in remotely and retrieve faxes sent earlier; plain paper or paperless faxing; call routing with Centrex/PBX support; and more.
GVP Phone Pak v2 $219.95

IoExtender
On a single card, you get an additional parallel port, & a high-speed, FIFO buffered serial port for speeds in excess of 57,600.

GVP ioExtender	$109.00
2nd Serial Port for ioExtender	25.00

Data Flyer A1200 HD

XDS Case w/170Mb HD	$279.95
XDS Case w/270Mb HD	309.95
XDS Case w/420Mb HD	369.95
SCSI+ Case w/270Mb HD	329.95
SCSI+ Case w/540Mb HD	439.95
SCSI+ Case w/1.08Gig HD	749.95

Call for more Data Flyer products!

Our Policies

No waiting for your orders to ship. Orders in by 2PM go out the same day. Second Day & Overnight shipping is available. International orders ship by Air Parcel Post or UPS Express. Domestic orders ship by UPS or Airborne Express.
• All orders are subject to credit card verification •

VISA MasterCard DISCOVER

Due to ad schedules, all prices are subject to change. We accept Visa, Master Card, & Discover with NO service charge. We accept American Express with a 1.5% service charge. We also ship COD, accepting Cash, Certified Check, or Money Order. Minimum COD order is $50.00. Software and accessories shipping is $6.00. Hardware shipping is $6.00 for small items, $15.00 for Monitors. Call for larger items. COD add $5.00. Canadian, APO, & International orders are welcome. We will bill only for actual shipping charges & insurance at time of order. 15% re-stocking fee on all returns not exchanged for another item. Shipping charges are NOT refundable.

Orders 800-932-6442

Info 610-586-5701 Hours: Mon-Fri 9 to 6
FAX 610-586-5706 Sat 10 to 4 - Eastern

Software Hut

AmigaVision Professional

An interactive icon-based authoring system for the Amiga family of computers. This newest version builds & expands on the visual programming environment of earlier versions. New features include:

- **CDTV Player support**
- **CD-ROM based CD-XL support**
- **Displays AGA based screens**
- **Speed & Memory improvements**
- **Enhanced Authoring environment**
- **Freely Distributable runtime module**

This totally new version of AmigaVision Professional, with enhanced features, is again available by a special purchase from Commodore. Suggested Retail List Price is $399.00. While supplies last we are offering this at a super price of:

$69.95

Amiga Vision - *$24.95*
Amiga Clips v1 Sound FX for AmigaVision or AmigaVision Pro - *$8.95*

A1000 Parts

A1000 Keyboard	$59.00
A1000 Motherboard, complete w/Daughterboard	49.95
A1000 Mouse from Commodore	14.95
A1000 Internal Floppy Disk Drive	69.95
A1000 Case w/all shielding	19.95
A1300 Genlock, New & Boxed	34.95

Software Collections

Some of the following software collections originally sold for up to $199.95

- **Starter Collection**
Includes: Super Ski, Miniature Golf, Crazy Cars, Fusion Paint, KindWords 2.0
$13.95

- **Gift Collection**
Includes: F-40 Pursuit, Master Type, Ports of Call, Info File, Who What Where When, & a durable Joystick
$14.95

- **Gold Disk Professional Collection**
Includes: Pagesetter 2, Media Show, Paint 2000, Music 2000, Advantage, CrossDOS, Gold File, Trans Write, Interactive product Guide, & a Video Tape Tutorial
$59.95

- **Discovery Collection**
Includes: Deluxe Paint 2, KindWords, & Ports of Call
$8.95

- **Appetizer Collection**
Includes: Paint Program, Word Processor, Music Program, & Puzzle Game
$7.95

- **Super Graphics Collection**
Includes: Deluxe Paint 3, TV Text Professional 1.0
$29.95

- **Print Master Plus Collection**
Print Shop like program with additional Fonts & Borders package
$32.95

Software

Productivity - Utilities

Alpha Paint	$599.00
Ami Back 2	35.00
AMOS Pro	45.00
AMOS Pro Compiler	29.00
Anim Workshop 2.0	84.95
Art Department Pro 2.5	149.00
Art Dept. Pro Conversion Pack	51.95
Brilliance 2.0	89.95
Caligari 24	139.00
Can Do 3.0	249.00
Checks & Balances	38.00
Composite Studio 1.1	124.95
Composite Studio Extras	49.95
Cross DOS 5 w/Cross PC	39.95
Crouton Tools 4000	99.00
Dluxe Paint 4 v4.5	79.95
Deluxe Paint 5	139.95
Desktop Magic	28.95
Directory Opus 4.1	68.00
Distant Suns 5.0	59.95
Dynamic Cache FS	29.95
Dynamic Motion Module	124.95
Final Copy 2	59.95
Final Writer 2	115.00
Forge/Essence Volume 1	89.95
Forge/Essence Volume 2	89.95
GameSmith Development System	Call
Gigamem	99.00
Hollywood FX	299.00
Humanoid for Lightwave	159.00
Humanoid for Imagine	159.00
Hypercache Pro 2.0	48.95
Image F/X 2.0	Call
Imagemaster R/T	69.95
Imagemaster Apprentice R/T	59.95
Image Mirror	89.95
Imagine 3.0	339.00
Invoice It 1.2	34.95
Link It!	49.95
MaxDOS 2.0	85.00
Morph Plus	124.95
Motion Master LW	114.95
PageStream 3.0	249.00
Pegger 2.0	59.95
Pixel 3D Pro 2.0	169.95
Power Macros/Lightwave	109.00
Pro Write 3.3	59.00
SAS/C 6.51	159.95
Scenery Animator 4.0	65.00
Sparks New Version	119.95
Studio Printer	69.00
Super HP-DJC 3	37.95
Swipes	89.95
TypeSmith 2.5	129.00
Vista Pro 3.1	59.95
Wave Maker 2.0	Call

HOT CD-32 TITLES *At Low Prices*

The following titles will also work with all Amigas equipped with a CD-ROM reader and AmigaDOS 2.0, or higher.

Insight: Technology $18.95
From household appliance to high-tech science... a fascinating look inside the way things work with sound, images, video and text.

Defender of the Crown 2 $17.95
An exciting, multimedia adventure through the realm of knights and maidens.

Groliers Encyclopedia 2 $34.95
Now, this award-winning reference work has been updated and adapted for CD-32 Multimedia... the exciting new technology that combines full-color graphics and high quality sound in an easy-to-use, interactive format.

Guiness Book of World Records $19.95
PAL version ONLY.

Buy ALL Four of the Above CDs $79.95
Save a BUNDLE on a BUNDLE!

Arcade Pool	$25.00
Banshee	34.00
Brian the Lion	34.00
Bubble & Squeak	48.00
Cannon Fodder	38.00
Dragon Stone	42.00
Emerald Mines	25.00
Frontier: Elite 2	34.00
Guardian	48.00
Impossible Mission 2025	38.00
Jetstrike	37.00
Jungle Strike	36.00
Lit'l Devil	42.00
PGA Euro Tour	37.00
Sabre Team	42.00
Super Frog	25.00
Super Stardust	42.00
TFX	46.00
UFO Enemy Unknown	38.00
Universe	34.00
Wild Cup Soccer	34.00

Games

Aladdin AGA	$42.00
Arcade Pool	24.00
Armageddon 2	35.00
Award Winners Gold Ed.	34.00
Banshee AGA	35.00
Beneath a Steel Sky	40.00
Benefactor	35.00
Blob	34.00
Bob's Bad Day	34.00
Chaos Engine	34.00
Civilization AGA	42.00
Clockwiser AGA	29.00
Dalek Attack	9.95
Dark Mere	29.95
D-Day	40.00
* Dennis the Menace	34.00
* Detroit	40.00
Dragon Stone	42.00
Dragon Wars	9.95
Elf Mania	35.00
Empire Soccer	34.00
Frontier: Elite 2	35.00
Gunship 2000 AGA	42.00
* Heimdall 2	40.00
* Impossible Mission 2025	36.00
Ishar 2 AGA	27.00
Ishar 3	38.00
Ishar 3 AGA	45.00
Jet Strike	19.00
Jet Strike AGA	37.00
Jungle Strike	36.00
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Lit'l Devil	42.00
* On the Ball	38.00
PGA Euro Tour	37.00
Pinball Dreams	29.00
Pinball Fantasies	34.00
Pinball Illusions	Call
Pit Fighter	9.95
Power Hits Bundle	33.95
Prime Mover	34.00
Robosport	24.00
Rules of Engagement 2	40.00
* Second Samurai	39.00
The Settlers	39.00
Sim Ant	24.00
Shadowlands	9.95
Sim Classics Bundle	45.00
* Sim City 2000	42.00
Sim Earth	24.00
* Simon the Sorcerer	42.00
Star Lord	42.00
Super Methane Brothers	34.00
Super Stardust	42.00
Syndicate	29.00
TFX AGA	52.00
* Theme Park	45.00
* Tornado	41.00
Traps 'n' Treasures	34.00
Universe	40.00
UFO Enemy Unknown AGA	42.00
Valhala	40.00
Wild Cup Soccer	34.00

* Specify ECS or AGA version

CD-ROM/CDTV/CD-32 SALE

Disks will work w/CDTV, CD-32, A-570 and any Amiga model with a CD-ROM drive and appropriate driver software. Purchase 4, or more, & receive FREE SHIPPING.

17 Bit 2 CD Collection	$35.00
17 Bit Continuation CD	25.00
A Long Hard Day on the Ranch	9.00
A Bun for Barney	8.00
Advanced Military Systems	10.00
All Dogs Go to Heaven	9.00
American Heritage III. Dictionary	12.00
American Vista	15.00
AmiNet	15.00
AmiNet Share 3	19.00
AMOS PD Library	30.00
Animals in Motion	10.00
Audio Resource	19.00
Bible & Religion	24.00
Barney Bear Goes Camping	8.00
Goes to School - Ages 2>6	8.00
Battle Storm	9.00
Case of the Cautios Condor	9.00
CD PD 2	24.00
CD PD 3	24.00
CD PD 4	24.00
CD PD Coll. - F 1>600 & more	10.00
Cinderella: The Original Fairy Tale	9.00
Classic Board Games	10.00
Clip Art & Fonts	14.00
Clipart Warehouse	20.00
Color Magic Clipart	24.00
Cookbook Heaven 2	19.00
Curse of Ra - CDTV ONLY	9.00
Deep Core - CD-32 ONLY	12.00
Demo CD 1	24.00
Demo CD 2	24.00
EuroScene	19.00
Eyes of the Eagle	9.00
Fresh Fish	24.00
Frozen Fish	24.00
Fun School 3 - Ages 8+	10.00
Ages 5 and under	10.00
Gallery of Dreams	19.00
Games & Goodies	24.00
Garden Fax: Fruits, Vegs, Herbs	9.00
Garden Plants	9.00
Indoor Plants	9.00
Trees, Shrubs, Roses, Conifers	9.00
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From p. 42.
program supports only rectangular areas.

Two other icons, StoryLine and Animate, are animation utilities. Storyline creates a set of thumbnails that snapshot the frames of an animation (typically at incremental points in an image-processing effect), and Animate generates 24-bit IFFs that you can combine into an ANIM file with another program. You can use



Image Mirror can enhance even the most beautiful image.

different tools in the same animation, thus facilitating complicated creations.

Image Mirror's tools are configured in a nontraditional fashion: Instead of sliders to adjust a tool's effect, you're presented with a variety of thumbnail images that show a range of effects; you then click on the image that most closely approximates what you want.

The manual contains a few excellent tutorials and a limited reference section, and you'll probably need to scan it before Image Mirror's unusual interface makes sense.

Processing Tools

I performed a simple rubthrough operation with the same two images in ADPro, Imagemaster R/t, and Image Mirror. Imagemaster just barely edged out ADPro's eight seconds, but it took Image Mirror about two minutes and forty seconds to perform the same task. Other effects took similarly lengthy times to process. On the plus side, however, Image Mirror includes some nifty effects, including one I'venever seen before: Mandel, a function that swirls your image into a variety of fractal patterns. Image Mirror also includes about two dozen tools for rotating, warping, compositing, and morphing images.

A Slightly Obscured Mirror

The user interface, while novel, is not well implemented. When you start a process, for instance, there is no bar or dial to indicate progress. Also, the program's requesters are aesthetically crude, displaying messages like "Busy_Busy_Busy." And avoiding sliders for the convenience of processing effects by the use of pictures doesn't work well. The thumbnails' 16-color grayscale screen is insufficiently detailed to figure out what is going on.

With its few unique tools, Image Mirror might be a reasonable choice, were it not so costly. In addition, the program is surprisingly slow (even on an A4000) and has a decidedly unfinished look.

—Dave Johnson

Cochlear Consciousness

Pierceptron, $150

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1.x/2.x/3.x compatible.
Hard-drive installable.
Not copy protected.
Accelerator compatible.
***Minimum system*: 1MB.**
***Recommended system*: MIDI output device.**

Music and ear-training software for the Amiga.

Cochlear Consciousness (CC), a set of aural-training programs that helps you develop relative and absolute pitch and the ability to recognize chords and harmonics, is ideal for budding piano tuners and musicians. Using a graphical interface, CC's built-in quizzes remember your errors and improve your weak areas. CC includes six programs: Chords, Harmonics, Beats, Just, Temper, and Absolute, each designed to focus on an aspect or method of ear training.

Chords teaches how to identify intervals, chords and chord progressions, while Harmonics shows how to recognize the individual harmonics of a tone. The Beats program helps you recognize the coincident harmonics of two tones and the beat rate. Just teaches you how to tune so the harmonics of a tone don't beat against each other. The Temper program puts it all together, allowing you to create or modify tunings and identify the differences between two tunings. Finally, Absolute helps you develop perfect or absolute pitch, without reference to an already identified pitch. Some of the programs build on skills learned in previous sessions, so taking the lessons in order makes good sense.

The manual's technical language is understandable and shouldn't impede the serious student. It gives a good overview and an in-depth discussion of each program, as well as a section on psychoacoustic and sound theory for those interested in the concepts on which the program is based.

Program Parade

Each program offers a different twist on ear training. The Chords program lets you design and save your own chord database as well as transpose and limit the range of chords presented by the quizzes. You can also load and save different tunings and toggle MIDI access.

The Harmonics program lets you think of each note as a combination of its harmonics, and most of the features in the Chords program are duplicated here. Beats teaches not only intervals and harmonics, but also the subtle beating patterns.

The Absolute program doesn't follow the logical progression of the others, requiring a familiarity only with the Chords program. The three modes ask you to tell whether the pitch is the tonic or above or below it (Binary mode); to identify the note correctly, regardless of octave (Chroma mode); or to identify the exact note (Note mode).

Unfortunately, the program uses nonstandard requesters, and in the quiz sections, if you accidentally click the wrong key, you have to accept the error and the consequent lowering of your score. Also, there are no safety nets such as save or record.

As a largely unschooled musician, I've always been suspicious of people who could tell notes and chords without audio or visual clues. Many of those same musicians, however, felt intimidated by my ability to play by ear. Cochlear Consciousness helps both camps get a better understanding of what the other is doing.

—Rick Manasa

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***Recommended system*: 4MB, hard disk.**

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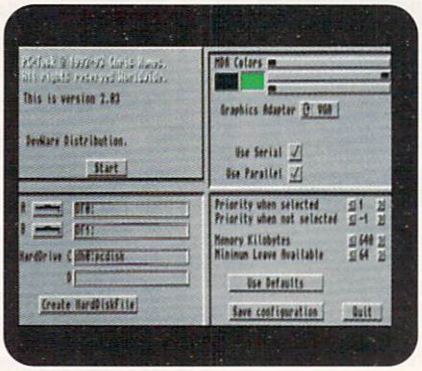
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its 4.77-MHz performance level. If you're looking for a cheap emulator so that you can take your daily PC word-processing work home with you, then PCTask may fit the bill. If you're looking to run Windows or play Wing Commander II, however, you need to invest in a good 486-33.

Slow Boat to DOS

Getting up and running is straightforward. PCTask installs quickly, then opens its own Amiga window to display the number of physical disk drives it can use as PC drives (these can be any internal floppies connected to your system). In addition, hard-drive owners can simulate having a C: or D: drive by setting up a special PC file on the Amiga hard drive, or by partitioning a portion of the Amiga drive to act as a PC drive.

As for the display, you can select whether to emulate a monochrome, CGA, EGA, or VGA graphics adapter. In order to use SVGA or MCGA graphics (640x480 or 320x200 in 256 colors), you must have the AGA chip set. PCTask seems to emulate only 256K of video memory—an almost-forgotten limitation



Getting started is easy with PC Task.

that precludes running most current PC graphics applications. If you leave the set-up screen, PCTask immediately tries to boot up into its PC-emulation mode. Note well that you must have a PC system disk handy; it's not included with the program. You need ready access to a PC (or know someone who does) before using PCTask.

Bottom Line

Most PC-XT-compatible programs work with PCTask. I ran WordStar, dBASE III, and several other productivity programs without any problem. Amazingly, WordStar seemed more responsive than the Amiga's own ProWrite and Final Writer.

Disappointment set in, however, when I tried to boot up games or any application that involved graphics, with the exception of Electronic Arts' DeluxePaint II Enhanced for the PC. This program, however, was painfully slow. And almost every old XT game I tried to load resulted in either an out-of-memory error or a system crash.

I'm annoyed that DevWare supplies no printed documentation for a $50 program; instead, you ust rely on a disk file. Although the best performance requires an accelerated Amiga, I still found operation slow on a 40-MHz, 68030-based system.

In conclusion, if you're anxious to run today's mainstream PC programs on your Amiga, there's still no substitute for hardware. PCTask is strictly for those budget-minded Amiga users with a need to access older XT-compatible databases, word processors, and other applications.

—John Ryan ■

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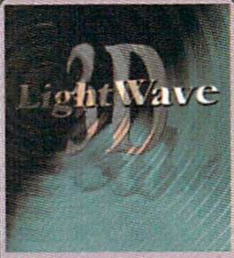
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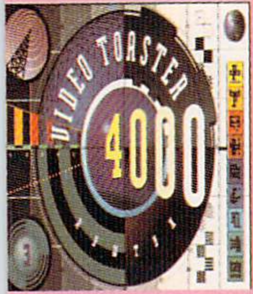


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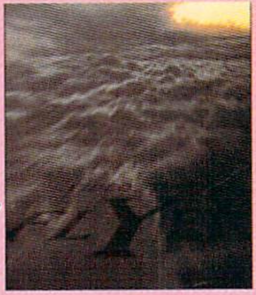


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11 Bays (2- 3 1/2 ; 5- 5 1/4 ; & 4 LPS Bays**)

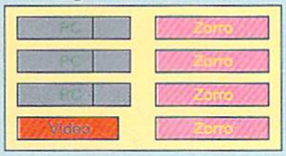
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A big problem with the A4000 is its deficient expansion capability in adding cards or peripheral drives. Its power supply is equally weak.

Peripheral Cards

A4000 LIMITATIONS → Although you have a video slot, four Zorro and three PC slots, you can add only four cards: e.g., the Video Toaster (which is a double-width card) occupies two card positions (two Zorros and one PC), leaving two card positions available; adding the Flyer (a Zorro card) takes up another position, leaving one remaining card position (PC/Zorro); and since your Flyer system requires a TBC, *that* takes your last card position. You need more expansion than that for pro video production!



TOASTER OVEN ADVANTAGES →
Other cards you'd most likely want to add to your system—display cards like the Picasso II or Retina, the SunRize 16 for better audio than the Flyer supplies, or an Ethernet card—can be added to the Toaster Oven. Because the Toaster Oven gives back three Zorro positions.
In the Toaster Oven the Video slot is separate from the Zorro slots, so when adding the Toaster card the Zorros are left free. This gives you back two of your Zorro slots. The Toaster Oven also has six power-only PC slots, one of which can take your TBC. This now frees up one more Zorro!
So your ultimate Flyer system now has: Toaster, Flyer, Sunrize AD516, Picasso II or Retina, Ethernet card, TBC, plus five more slot positions for power-only cards; five PC and two optional Zorro cards.

Peripheral Drives

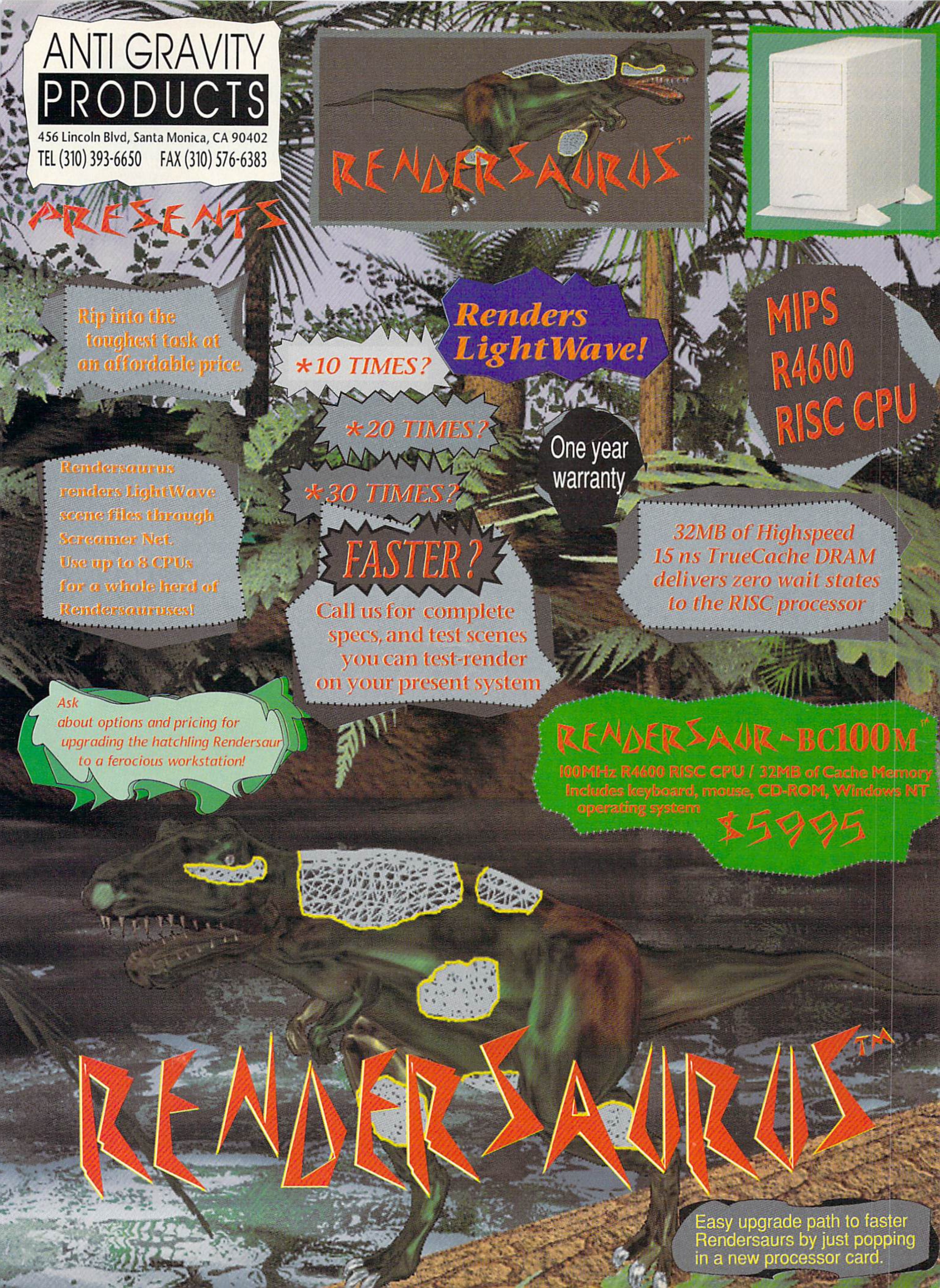
A4000 LIMITATIONS →
Another limitation of the A4000 is how few bays for hard disks, CD-ROMs, tape drives, removables, etc. are available. It has one 5.25 inch bay and one extra 3.5 inch bay, and a 3.5 inch internal mounting bracket. And definitely no room for full height drives.

TOASTER OVEN ADVANTAGES →
The Toaster Oven has 11 drive bays. There is one 3.5 inch floppy bay, plus another suitable for a Syquest 270Mb removable. There are five 5.25 inch half-height bays to accommodate NEC triple-speed CD-ROM drives, Exabyte 8505 8mm tape drives and other storage devices, or two full-height 9Gb Elite drives for the Flyer with one bay remaining for another device. There are four internal 3.5 inch Low Profile (LPC) bays.

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A4000 LIMITATIONS →
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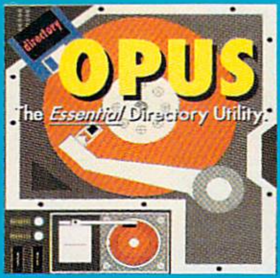
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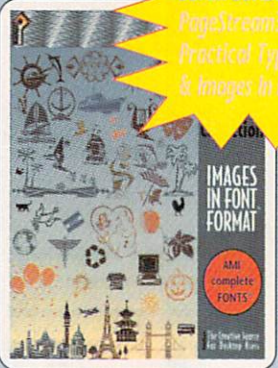
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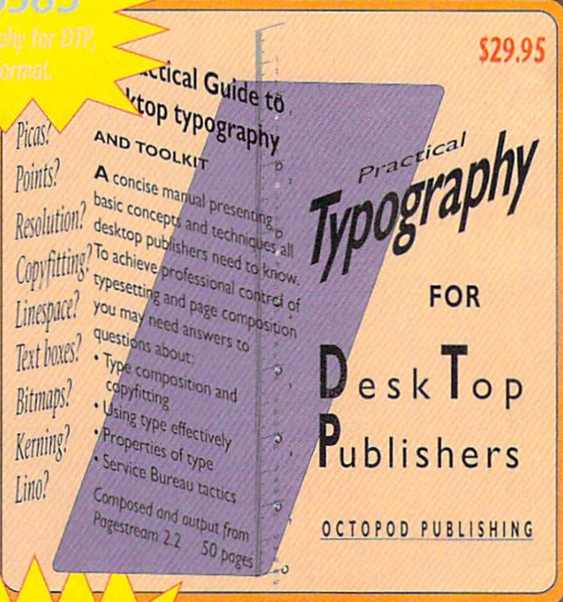
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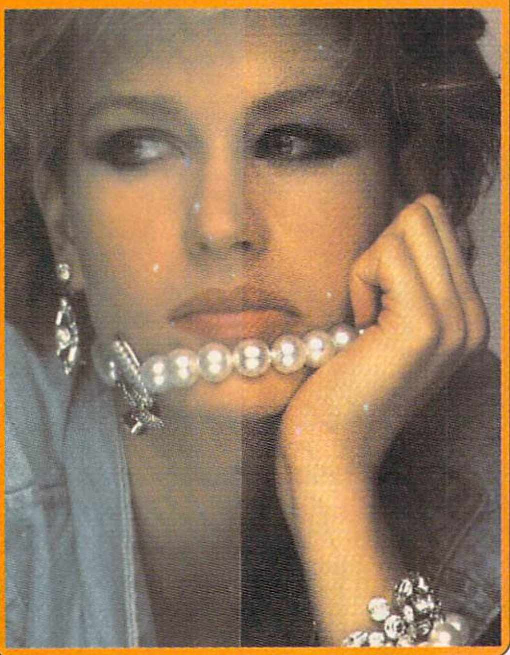
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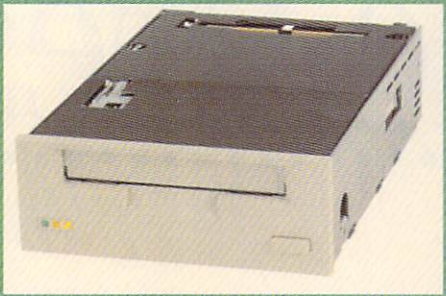
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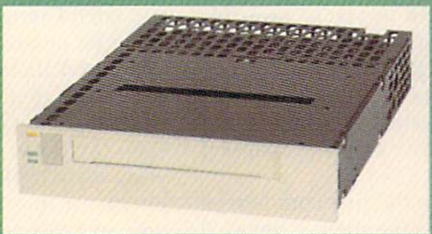


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With the Tapeworm software you can actually mount an Exabyte drive as a harddisk-like system volume, with half a megabyte per second access speed, and rapid tape rewind.
The Exabyte drive is used to transfer digital video or computer images to and from the Abekas digital disc recorder format. The Abekas system allows you to read and write D1 digital video in NTSC or PAL formats and to transfer data to other video formats—Betacam, D1, D2, SVHS, etc. The Exabyte drive is ideal for economical single frame recording.

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Three Energy macros will easily create moving swarms by fragmenting objects and animating the pieces along motion paths. Adjustable velocity, inertia and frame delay parameters control natural-seeming interactions of the elements.

With the Layout macros you can render unlimited scenes sequentially to any combination of destinations; transfer scene files with all elements; automate creation of focal distance envelopes; morph objects along a path using bones; create a constant velocity for existing motion paths.

Modeler macros will streamline cloning objects and surfaces; control the angle as well as position of mirrored objects; make it easy to join a polygon to the surface and angle of another; and load an entire scene into Modeler with all objects.

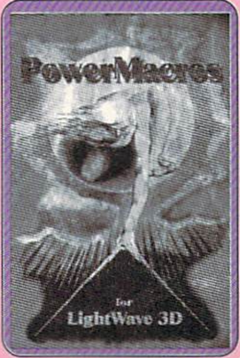
Create pie charts with Business macros; Pie Chart 1 generates a single object, Pie Chart 2 creates separate objects from the pie's pieces.

ENERGY:
- Shatter
- BlowUp
- Swarm

LAYOUT:
- Snake
- Render Batch
- Move Scene
- Smooth Velocity
- Focal Distance

MODELER:
- Attach to Polygon
- Clone Object & Surface
- Flip Around Polygon
- Load From Scene
- Mirror Using Polygon
- Save Pivot Point

BUSINESS:
- Chart1
- Chart2



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The Game Preserve

Special Report: 3-D Free-scrolling Action

Imagine the best 3-D game you've ever played on the Amiga. Well, chances are, it can't touch Doom for the IBM. What makes Doom and its clones so unique?

In a nutshell, Doom allows the player to move smoothly, in first-person, full-screen mode, through large, dark environments rich in stairs, secret places, push-button puzzles, and monsters. It is realistic, intuitive and supremely scary. And addictive.

All this makes for great gameplay, but as you're probably asking, is the Amiga capable of this kind of 3-D free-scrolling action? Yes. Anyone who's tried out the RPGs Legends of Valour, Ambermoon, or the forthcoming Robinson's Requiem, or hacked a path into the 3-D bits of Jurassic Park, knows that even a moderately fast Amiga can simulate a texture-mapped scroll with some panache.

All the same, it may be a while before the first commercial 3-D freescrolling titles actually appear on the shelves, but we'll take a look at what's in store.

Early Arrivals

Apache Software is finishing off Deathmasque—a two-player Doom-style game—which, at this writing, was expected to be released by England's Alternative Software before Christmas. Imagitec's Freelancer 2120 is planned for the Amiga, but probably won't appear until sometime in 1995, and one large Amiga-specific publisher has been offered a third-party Doom-derived game. A number of designers are at work on games or game engines. An East Coast coding outfit is exploring the idea of porting Wolfenstein 3-D itself.

Trick or Treat (shareware available via CIS, about $10) is a split-screen, two-player maze game from England that sends you and a pal—cast as a pair of rotund, gun-toting wizards—roaming about a texture-mapped stone village until one of you is reduced to a bloody pulp. It's quite basic—hardly a Doom "deathmatch"—but the scrolling is respectable on anything faster than an 68000, and ducking into the many doorways fixes you up with special equipment (a magnet to mess up your opponent's compass, for instance).

The most promising of the lot, though, is a joystick-driven, Doom-style engine being developed for AGA machines by a young Englishman named Andrew Clitheroe. His game world (as yet unnamed) isn't very large or well-populated. No guns, no butter, no sounds, no tale to tell. Not yet.

What it does have, nevertheless, is trace elements of the rich and ragged atmosphere spun by Doom—that feeling of corners best left unturned, that sense of haunted darkness—and that a near-empty game world can generate any reponse beyond clinical interest is a good sign.

The texture-mapped walls, displayed in delightfully grainy resolution, effectively suggest janitorial neglect. At the same time, in extreme closeup, the colors did tend to messily smear together. Here's hoping Clitheroe includes a high-res version for fast machines in the final release. (The version I looked at was for a stock A1200.)

Bear in mind: The game wasn't done. Not hardly. Collision detection wasn't in place. You couldn't kill the monster. (Holding the firebutton down and maneuvering the joystick did allow lateral movement, though.) It wasn't hard to crash the program or corrupt the graphics. But it would be hard not to be excited about the engine's potential.

No, this demo's not on the nets. You probably won't see Clitheroe's work until it's ready for release. (He's planning to shop the demo with publishers.) The basic technology, however, is on display in a wide range of demos—many modestly interactive, most AGA-only, and none (alas) representing genuine games—available from FTP sites and commercial services. Virtually all of them can be found on Aminet and Portal, and a few have also drifted to services like CIS and GEnie. (I've limited the following survey to those that feature texture-mapping and rotation within a game-style environment.)

Bring on the Demos!

BSP
John Fehr

BSP 1.0 allows you to stroll through the empty hallways, cellars and sniper nests of the IBM version of Doom on your Amiga. It's a fascinating experience—not to say a discombobulating one—to see those familiar wall textures and rooms flowing by on Big Beige. The speed has been improved for this release. Unfortunately, floor and ceiling textures aren't included (just the walls), so you'll have to walk through doors, and there's not a beastie or object in sight. It may offer more work than reward, however, because you'll need either the shareware or registered version of Doom, as well as access to an IBM.

Chunky Maze
David Bryson

A solid, effective interactive Wolfenstein demo, this features flickering torches and paintings on the walls. (Is that Jane Fonda?) Resolution has been dropped somewhat in the interest of speed, but it's not at all a disagreeable compromise. If we're lucky, the first full game we see may look something like this.

A—Wow! Exquisite. A must for your games library.
B—Great fun. Plenty of entertainment value here.
C—Meets expectations. Good, solid performer.
D—Disappointing. Lots of room for improvement.
F—A real stinker. Don't waste your time.
*** You may encounter some problems under this operating system and/or require a PAL/NTSC adapter.**

By Peter Olafson,
AW Games Editor



BSP "interprets" the IBM version of Doom for your Amiga.

DENTAWOLF
Alex Amsel/Silltuna Software

This should look familiar; the graphics in this AGA-only demo were ripped from Doom. Unfortunately, the resolution here is less than VGA, and the familiar texture maps, smushed into a central window, don't have quite the same oomph. But this demo does blaze along on a fast A1200, the screen layout is nice, and Amsel indicates he does have his own graphics. He also mentions (without specifics) that there will be more to the game than its models, and he'd like to include a serial link for two-player deathmatches, as well as a map editor.

DOGENSTEIN 3-D
Jason C. Doig

You may note the absence of a floor, and observe that the walls are oddly warped. (The water-damage curvature is substantially repaired in the most recent version.) But the gun-in-gloved-hand in the foreground and the computer terminals and blood-spattered walls make this Wolfish in spirit, and in terms of speed, it fairly cranks. Works with a joystick, too. (Most of the others use the mouse.)

DOOMED
Pearl

Surprise: This Australian demo works on an ordinary A500 running 1.3. Bigger surprise: It's full-screen. (Many of the other demos run in a small window to keep up the speed.) And it uses a nice array of colors. However, while Lowest Common ►

SPECIAL REPORT:
CD32: THE NEXT GENERATION

Thirteen months after the CD32 was released in Europe, most of the software available for the machine isn't *really* CD32 software. It's Amiga software, converted to run comfortably under Kickstart 3.1, with support for the new controller and, sometimes, to the accompaniment of CD-quality sound. But, as we enter the CD32's first full Christmas buying season, the situation is showing signs of change. Some big games are inbound. By the time you read this, we should finally be seeing ***Gremlin's*** much-awaited **Litil Divil** (a charming amalgam of 3-D arcade exploration and puzzle room); **Guardian** (***Acid Software's*** answer to Starwing); and ***Mirage's*** sculpted beat-'em-up, **Rise of the Robots**.

TALKIES

Some incremental changes are already kicking in. We've seen the first "talkie" CD-ROM game for the Amiga: **Simon the Sorcerer** (about $45). A couple more are planned: ***Cyberdreams*** is bringing over **Dark Seed,** and ***Interplay*** is doing **Star Trek: 25th Anniversary**. (In French only. *Quel dommage*.)

Simon is about a young magician's quest to recover his missing master from the clutches of the bad wizard Sordid. It's a LucasArts clone from England's ***Adventuresoft*** (the folks who did the Elvira games for Accolade).

The difference here is that all the lines are read aloud by about a dozen actors. Adding speech continues to be a common practice in disk-to-CD conversions in the IBM world, and it naturally lends the game more personality.

And yet there are risks associated with this addition. Playing a good adventure is like reading a good book: After a while, you begin to hear the characters' voices in your head, filtered through your own experience, even without the benefit of a "talkie" version. Having someone else's voice superimposed atop the one between your ears can either complement that feeling . . . or utterly violate it.

Chris Barrie and the nine other players here do a pretty nice job while not staying entirely clear of this trap. (To be fair, no one could.) Barrie doesn't have *quite* the voice I had in mind for Simon's little magician the first time I played the game. It's a little too grownup. But it's not totally foreign, either, and the game's tenor improves discernibly with real people standing behind it.

COMPILATIONS

The voices are made possible by the CD's immense storage capacity. (Simon's includes some 350 megabytes of data—the equivalent of about 420 Amiga OFS disks.) This permits all kinds of interesting possibilities: back catalogues of out-of-print commercial software; shareware games compilations; and the simple bundling of parent games and their data disks.

The first of these has found ultimate fulfillment in **Emerald Mines** (***Almathera***, about $22). A bit of history: Emerald Mine and E II were a pair of legendary Boulderdash clones released by the German label Kingsoft in the late '80s. They were charming enough to entice you in and excruciatingly difficult enough to have you tearing your hair out in great handfuls before you got through—if you ever did get through—the game. A devoted following sprang up. Thousands of levels were created, along with new graphic sets and sounds, and more than 110 Emerald Mine-based games were placed in the public domain under a wide range of names.

Almathera has roped all 10,000 levels under one umbrella and added a menu system that allows you to play any of them (as well as the original games) with graphics and sounds of your choosing. The graphics are still straight out of 1988, but the

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Denominator performance is impressive, Doomed doesn't look much like Doom or even Wolfenstein. The flipside of the bigger picture and slower machine is that you get reduced graphic resolution, and the effect of the consequent pixelization is rather as though you were wearing someone else's glasses.

Full Moon
Virtual Dreams/Fairlight

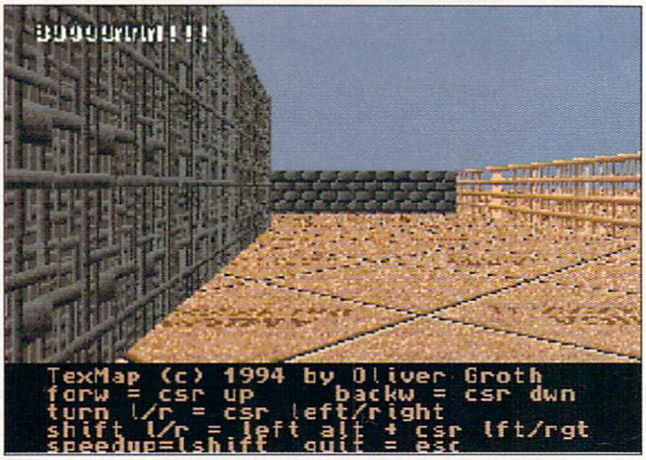
Like many of the Euro demos here, this one touches many bases—check out the smooth roll of the moonscape behind the credits—but it starts out with a splendid, too-brief Wolfensteinian bit, supplied with the spookiest wall tiles around. (Unfortunately, it also takes an age to load.)

Hoi Saga III
Team Hoi

From the creators of Hoi, Cognition, and Clockwiser comes this cracking three-disk demo, one dazzling segment of which features not only texture-mapped walls (featuring the little green dino used in Hoi), but also animated texture-mapped wall-tiles—and, since you're walking through water, reflected walls. Technically, this has a big leg up on Wolfenstein. Any chance of turning it into a game? (Note: You may want to turn it off after the first disk, at which point it degenerates into an X-rated Star Trek parody.)

Jabberwocky Texture Mapper
Oliver Groth

Slow on 3000/25 (the author suggests an '040), this interactive demo is nevertheless a fine piece of work. Forget Wolfenstein; Jabberwocky is closer to Doom. Groth has incorporated trans-



TMapDemo sends your AGA Amiga "scrolling" à la Wolfenstein.

parent gridworks, scrolling walls, multistory walls, patterned floors, columns, and what he describes as "soft camera movement." And the demo will run balkily in half-screen or friskily in a postage stamp-sized window (another bow to Doom). Look for a more advanced "copper" version for the A1200 to follow.

Mindflow
Stellar

Another nice set of dusky scrolling hallways in this noninteractive AGA demo, but it doesn't add anything much to this body of work, and the effect's getting a bit tired. What's more impressive here is the endless, hypnotic zoom-in on a fractal wall tile. ►

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ORIGIN
Complex

One of the best of the bunch. Buried within other neat game-like effects in this superb, two-disk Eurodemo is a substantial Wolfenstein-cum-Doom segment, with giant rotating wall fans, detailed doorways, and tiles on ceiling and floor. It's a bit balky, even on a fast machine—and no wonder, given the detail level.

PHOBOS
Cyadonia

Borrows its name from Doom's alien-infested base, but otherwise nothing to write home about. This rolling demo has a range of wall tiles, but practices on them the same strange warping effect of the first version of Dogenstein (see below); it's rather like peering out a peephole to see who's at the door.

POOM
Jussi Salmi and Janne Juhola

An essential download. Simply the closest we've come to Doom Amiga, and the recent version 0.2 is an staggering improvement. It's in 256 colors (Poom is AGA only), it's huge, it runs like a deer on an '030, it has textured ceilings and floors—not to mention effects like steam pipes, see-through walls, blinking lights, and doors that open. It's getting close, folks.

ROT, ROT2, ROT3-D
Jason Freund and Gabe Dalbec, with Chris Hames

The original Wolfenstein clone. It's been through two more-polished generations, with the most recent edition (the final one, say the authors) featuring animated wall tiles—hence the green ooze dripping from the drain pipe—and variable light sourcing. It's good enough that its creators dabbled with the idea of turning it into a full-fledged game, but most offers of help fell through and now they don't have the time. (If you do, the Aztec sources are available on the Aminet.)

TEXTDEMO5
John Hendrikx

Very nice! This raycasting demo has come quite some ways from the tidy, spartan, TD4. The dungeon features true light sources, and, occasionally, moving ones. The walls actually curve. The frame rate is fine, even in 256-color AGA, and is close to full-screen mode on an '030-based 1200. The map (thoughtfully included) is quite large; there's actually someplace to go in this demo. Versions are also included for ECS and OCS machines. And Hendrikx hints, delightfully, at a game in the works.

TMAPDEMO
Chris Greene

Next to Rot, this AGA offering is probably the best-known among the Wolfenstein-style demos. Written by a former Commodore graphics engineer, it's best described as "Night Gallery"—a shadowy hi-res scroll past cubes with illuminated paintings for sides. The only thing missing is old Rod. Very stylish, and atmospheric in a spooky way that could be the start of something interesting.

WALLS
Mats Knip

Not detailed at all—this uses plain old rectangles—but the speed at which they whip by fairly defies belief: allegedly about 50 frames per second on a stock A500. The author started this with a view to a game, and while he indicates he's dropped that idea, he's still improving the engine with filled-vector objects, windows, and floor patterns.

WOLF
Chris Colman

The first version of this AGA demo was incredible, mainly for its data compression—a 7K LHA archive file blossomed to 422K—but it also had a nice smooth scroll. The newest adds depth shading and toggles between indoor and outdoor mazes. And the smooth scroll has gotten smoother; Wolf gets 22 to 25 frames per second on a stock A1200 and 50 to 59 on an accelerated machine. Slick. Game in the works.

From p. 61.
game is as riveting as ever. (You can tell by the pile of hair next to my chair.) This is a wonderful idea well implemented—it runs on CDTV, A570, and Amiga CD32 as well—and while the execution may prove a bit tricky on NTSC machines (EM is in PAL), it's worth it. You'll literally never be able to stop playing.

The **Humans** (*Mirage*, about $35), a Lemmings clone from Imagitec, is a far more modest comp, but a good one. It now incorporates the Jurassic Levels data disk, and, free of the incessant swapping and murderously long loads of the disk-based game, becomes the charming, gorgeously-appointed puzzler it always wanted to be. The only problem here is in ►

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the level design, which features lots of fruitless running about.

On the other hand, I'm not sure I get the point behind **The Classic Lotus Trilogy** (*Gremlin*, about $35). They've cobbled together Lotus Turbo Esprit Challenge, Lotus Turbo Challenge II and Lotus III—three licensed racing games that, in their respective days, were all quite good. (Lotus III still holds up well.)

However, they weren't so much three different games as one game in progression, and the family-reunion thing here is rather like having three takes of the same scene. A CD32-specific version of Lotus III with more built-in tracks and extra features would have been a better idea—especially since Europress has dropped plans to bring its texture-mapped racer, Rally, to the Amiga.

Lock-N-Load's thousand-game bonanza was, for the most part, a sterling example of a shareware and PD games compilation. **Games, Vols. 1 and 2**, and **Games & Goodies** (*Multimedia Machine/Better Concepts*, about $35 each), which predated it, are the "Don'ts" side of this picture.

It's a nice *idea*. The compilers have planted 100 PD and shareware releases—107 on G&G—on each of three CDs and allowed you to boot them via a more-than-presentable interface. There's good to decent stuff strewn across all three—especially on G&G, which is by far the most up-to-date. However, 100 games is a drop in the bucket on CD; the organization (PD and shareware sections) is unhelpful; a number of the games (50 on Vol. 1) require either mouse or keyboard to work properly; and the selections seem generally indiscriminate. Come on now: Space Attack? Space Attack 2?

Upgrades

An intermediate category, between reinvention and reissue, is The Upgrade: a CD32 revision of a disk-based game that adds significantly to the atmosphere or playability of the original. The best of these to date is **Gunship 2000** (*MicroProse*, about $40)—coded by Bob Koon, who did the Amiga conversion of Dune II.

I can't say this feature or that feature is different, and I confess I don't much like flying by joypad. But the feel is great; you get bombarded from every direction, and then there's the enemy as well. Whether its the aggressive intro, or music that bursts out at you, or the plentiful use of voices, or just the disk-access screens, Gunship 2000 never fails to let you know that you're onto something cool and CD-specific.

Sabre Team (*Krisalis*, about $35) was released for standard Amigas a ways back, and the CD32 and A1200 versions have gotten the benefit of the subsequent IBM conversion: The VGA graphics look great, and the controls have been tightened up. The original version of this Breach-like isometric strategy game, in which you run an antiterrorist squad, had problems with its interface; you never knew quite what was going on. Here, you almost always know . . . and get killed anyway. (Love the animated icons!)

Then again, ambient sound should be more plentiful on a CD game. I miss the mouse control (which should have been an option). And I ran into graphical glitches and unrequested mission-restarts—especially from the map screen—even when running in PAL. Sabre Team's not X-Comm, but it's not bad.

Download Dungeon

The only thing *Knights 2.4* doesn't provide is another person to play with. This two-player, top-down dungeon crawl offers a lovely range of options and professional graphics that had me wandering around happily even on my lonesome . . . *Green Five* is a classic arcade/puzzler firmly grounded in Out-of-this-World territory, with perhaps the most dazzling intro ever to adorn a shareware game . . . If you ever wondered what became of Mother Lode author Joe Rumsey, well, lately, he's been full of *Hot Air*, a nifty puzzle-platformer with your Mother Lode-sized character conspiring to free balloons from puzzlesome environs. A new version with bigger and better graphics is in the works. (Joe's also the prime mover behind the Paradise version of Netrek for DNet.)

Incinerator's followup is *Castle Incinerator*, which puts a medieval spin on the original's great Missile-Command-goes-3-D concept. (It's available only to registered users of the original.) Nothing really new here, save for the graphics, but I've been messing with this even more than author Pete Storonskij's new game: the demo derby *Mangled Fenders*. Next up for Pete: a puzzle game called *Conundrum* . . . It's rare enough that we get a sophisticated, Breach-like strategy game like Act of War 1.4. Now there are two AOW data disks for the registered version . . . *Raise the Titanic* is among the best adventures built under Virtual Reality Studio, with intelligent puzzles, a quasi-serious approach and, most particularly, a wonderfully murky underwater atmosphere . . . Ordinarily I don't go for color-matching contests like *The Pyramid Game*—there are just too many of them—but this one has a beautiful simplicity (not to mention a great Middle Eastern score) and plays a lively game . . . The new deluxe version of Psycho Squares takes a simple strategy-game idea and implements it so deftly that the machines just float away, leaving you alone with the game . . . *Global Thermonuclear War* adapts a Scorched Tanks conceit to the War Room maps from the movie *War Games*. Fun, but how about a nice game of chess?

I didn't know what I was getting into when I opened this Pandora's box of AGA games. Another base touched: *Ooze* (widely available, with a companion ECS version) is a pleasant 256-color Othello variant rather in the style of TTR's Thromulus. It's the work of Josh Farley—the principal architect behind a sparkling Shadow of the Beast II-like action/adventure called *Monster Hunter* (which appears doomed to remain unfinished, but is available in playable-demo form) . . . *Zombie Apocalypse II* is a gruesome Op Wolf-style blaster (and an exceptionally well-done one, at that), which shows to great effect what can be done with Blitz Basic II . . . The two-disk *Masquerade* is basically Boulderdash AGA, while *Slider* gives an elegant AGA twist to the old sliding-block puzzle game. (An ECS version is also included.) Keep an eye out for Slider author Joseph Carlson's and Randall Richards' joint production of *Carnage*, which sounds like Alien Breed or Mean Arenas with modem play . . . Speaking of Breed, *CyberTech* is a fine clone of Team 17's maze shoot-'em-up, Alien Breed . . . Mad Fighters II is basically a continuation of the original licenseware fighting game, but what seemed like crude art seems just plain sloppy here. Much better is *To the Death*, which has commercial quality graphics, but, alas, only one enemy in the PD version . . . *Evil Insects* is yet another Space Invaders, with one small contortion: Your little man fires at an angle to the ceiling, where stones then drop on encroaching insects. Wouldn't an aerosol can be simpler? ■

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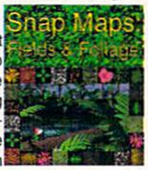
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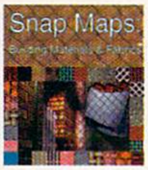
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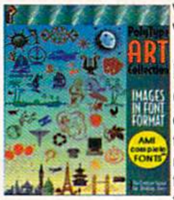
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Volume 1: Flying Logos Construct a logo from your clients letterhead, make hundreds of special 3D fonts straight from any printed material, add surfaces and images to make them shine! Fly that LOGO and animate it to tape without a single frame controller! Complex object motions made simple with the null object. Contains a "Rogues Gallery" of 36 example surfaces. V4056 **$39.95**

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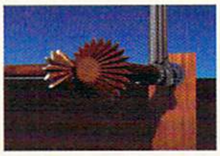


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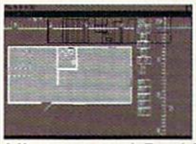
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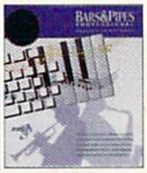
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Public Domain Library

We have been the official Public Domain Library of all the best Amiga magazines. Find out why these magazines choose us! The first two letters on each disk indicate the orientation of the disk; WB# general interest - most programs can be run from the workbench, FD# games and entertainment, VO# are video related programs/utilities and DD# advanced--requires thorough knowledge of AmigaDOS/CLI. *Thanks to our extensive arsenal of anti-virus software, ALL of our software is guaranteed virus free!*

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NEWEST DISKS

WB148AB: AmigaDeus II Rob Baxter's musical sendup to Mozart. Very elaborate interpretations of classics. Requires 1MB Chip RAM.
WB147: VideoTracker Music meets video! "Compose" your own music videos! Has to be seen to be belived! Make your Mac and PC friends green with envy! Supports AGA too!
VO13: Toaster Textures-reflection maps, bump maps, surfaces and scenes for LightWave.
VO12: MainActor - Animation processor. Reads/writes/converts many animation/picture formats and supports various graphics boards. Very nice!
FD103: Rockets AGA - Be-a-u-tifully done shoot-em up for 1 or 2 players. Requires A1200 or A4000 for AGA graphics.
FD102AB: StarWoids - A fun action/adventure shoot-em-up with killer graphics–based on the Star Wars saga. Req 1MB Chip RAM for PAL.
FD101: WipeOut/Defender Defender is a virtually perfect clone of the original. Wipeout is a multi-scrolling shoot'em up with great graphics and smooth animation. Req. 1MB.
FD100: Pengo II A clone of the original coin-op classic. Req. 1MB chip RAM for PAL mode.
FD99: The Shepherd A killer Gods/PowerMonger clone...great graphics and sound effects! Req. 1MB
FD98ABC: Klondike AGA - Solitaire a'la hi-res AGA graphics! Outstanding graphics. Runs in multiscan or any PAL display mode on AGA Amigas.
FD97: Bonanza - Battlesheep-a battleship game, Tanx'n'Stuff-seek and destroy in a cool 4-way scrolling world, MileStones-play Mille Bournes against the computer and Galactoid-a Galaxian-type game.
FD96: Tetris Duel AGA - The next generation Tetris..2 players play head to head and sabotage each other! Great graphics for AGA machines! Req's A1200 or A4000.
FD95: Deluxe Galaga - You should be paying $40 bucks for this one! Easily one of the best p/d games ever! All kinds of power-ups and silky smooth motion. Req's 1MB Chip RAM for PAL Mode.
WB146: ImageKnife Loads IFF, JPeg, GIF images, with manipulation like rotation, noise, filters, halftoning, pixelizing, edge detection and more. Req's Workbench 3+
WB145: Big Dummies Guide to the Internet An interactive AmigaGuide of the information highway and how to tap it!
WB144: Molecule CPK renders space filling representations of atoms and molecules. Req's WB3.0+ and hard drive.

FUN DISKS

FD5: Tactical Games - BullRun a Civil war battle game, in Metro you play the role of a city planner. If you build wisely then your system will be a success, but poor planning will lead to disaster and financial ruin. Very habit forming.
FD6: GAMES! - This disk is chocked full of games including; Checkers, Clue, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.
FD7: PacMan - This disk contains several PacMan type games including; PacMan87, MazMan and Zonix.
FD9: Moria (5.4) - This has great graphic controls, multiple spells, similar to Larn and Hack. Play time several weeks!

WB105AB: Workbench 2+ Extras #2
This set contains the programs that should have been included with WB2+. These powerful utilities take full advantage of the many new capabilities that are available in Workbench 2+. Includes: Tool Manager - a wonderful utility to add programs to your TOOL menu. Virus Protection - Degrader. Icon - Enhances Workbench's "Show All" to display over 40 distinct icons for different types of files. Bitmap Font Editor. Screen Blankers - ala fractals and spliners and swarming bees! Requester Enhancers and CPUBlit. Two disk set, counts as two.

FD10: HackLite - A dungeon adventure game. Considered a must-have classic. Play time several weeks or months!
FD11: Vegas - Las Vegas Craps; the best Craps simulator ever written for a computer. Contains extensive help. Also Thirty-One, VideoPoker and more.
FD12A&B: Star Trek, The Game - This is by far one of the best Star Trek games ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Req. 1MB and two drives (or hd). No WB 2.04.
FD13: Board Games - contains multiplayer Monopoly, Dominoes, Paranoids, and others.
FD17: Educational Games - This disk includes several games for the kids including geography, math, science, and word games, also includes Wheel of Fortune.
FD20: Tactical Games - MechForce(3.72); A game that simulates combat between two or more giant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.

THE AMIGAWORLD "BEST-OF" SET
FD85ABCD: AmigaWorld's Best - These four disks contain the *hottest* p/d games! Includes Mother Lode, Moria, Minefield, Poing, Intruder Alert, Deluxe PacMan, Rocky and Super Artillery (see Dec. '92 AmigaWorld) Four disk set, counts as three.

FD22: Arcade Games - This disk has MoonBase - A true classic game. The best lunar lander game we have ever seen, very challenging.
FD24: Strategy Games and Others - Includes Dicey, a yahtzee type clone, MM a master mind type clone, Flipper an Othello type clone. China a great implementation of Shanghai, Circuit Wars a challenging game based on electronics, and Etrain a computer based model train set construction set.
FD26: Arcade Games - Marble-slide, this is a truly commercial quality game. Similar to a Lucas' game named PipeDreams, excellent playability and entertainment. Mutants, a small version of the arcade game of the same name, also SuperBreakout a Pong/Arkanoids type game.
FD33: Arcade Games - Ffreddy a mario brothers type of game, Gerbils a target practice game. PipeLine, a German interpretation of Pipe Dreams. Tron a light cycles version, and Wetroids a wonderful version of asteroids with a hilarious twist.
FD34: Games - Includes WellTrix a derivative of the addictive game of tetris, and new version of BackGammon.
FD35: Omega (v1.3) - A dungeon and outdoors adventure game in a similar vein as Hack, Rouge, and Moria. This version is considerably faster and better than all previous versions. Play time--months.
FD37A&B: Empire - One of our best! Now with a full-featured graphic front end. Empire is a rich simulation of international politics, economics and war. Modem compatible. Counts as two disks.
FD39AB: Tobias Star Trek - This is a new completely different version of Star Trek than that found on FD12. This one was created by the German author Tobias. Full English Doc's. Excellent!!!! Counts as two disks. Requires 512k memory.
FD43: Game tricks/ hints - A disk full games cheats, hints, and backdoors for all of your favorite games. Hints for Shadow of the Beast, Dungeon Master, Space Ace, Leisure Suit Larry, Moria, Neuromancer, and over 300 more games.
FD44: Game - Mechfight is an out of this world role-playing adventure comparable to Hack and Moria. The setting, interplanetary colonies and space stations. Your quest is to explore the world, take time out to liberate bad guys of their most valuable possessions, engage in mortal combat against robots and alien life forms, pick up a new amiga 9000. Most of all, don't forget to stay alive...
FD45: Arcade - Three good shoot'em ups. Batman, save the city from the Joker. DriveWar, gangsters are moving in on your territory, try and stop them! Web, a spidery, bug affair of eat or be eaten.
FD48: Puzzles - Contains CWP - a very well done full featured crossword puzzle game and generator, Concentration - like the card game. Hollywood Trivia, a very large set of trivia questions on topics including StarTrek TNG, HitchHikers Guide, Indiana Jones & StarWars.
FD49: Chaos Cheats - This disk contains everything you wanted to know about for Chaos Strikes Back, including full maps, spells, object locations, super characters and more.
FD50: Submarine Game - Sealance, one and a half years in the making, this an outstanding submarine tactical game. Commercial quality, highly recommended.
FD52: Classics Games - PetersQuest a well done Mario brothers type of game. Jybmc, a two player missile command clone, and Vstank, a tank commander game.
FD53: Great Arcade - On this disk is a wonderful implementation of the ever popular classic arcade game Defender. Also contains Air Race, a WWII flying ace arcade game, and Psycoblast, a new creation idea game.
FD54: FoodFight - Contains Galactic FoodFight, a wacky spaced out arcade game loaded with shooting ketchup, and hamburger eating monsters, and flying pizzas. Sorry, no WorkBench 2+.
FD57: Arcade Games - Includes 2 true commercial quality games. MegaBall is the successor to Ball; features 5 full musical scores, multiple levels and addicting gameplay. Gravity Attack is a psychadelic trip through several different worlds--each different.
FD58: GAMES! - Includes Steinschlag; a great Tetris clone from Germany with music. SCombat: simulate battle between up to 40 players & monsters. Imperium Romanum: Battle up to 4 players for control of the Mediterranean in this Risk-esque game.
FD59: Potpourri - Xenon III is an almost exact clone of the commercial game of the same name...a great shootemup. Crossword will take lists of words & automatically generate crossword puzzles for any Epson printer.
FD60: Games - In Nebula, race over a 3-D world to destroy enemy installations. Interferon; a great Dr. Mario clone. Enigma; is it a game or a puzzle?
FD61: Games - Solitaire; great graphics, plays two versions. Klide; an interesting piece of eye-candy. Extreme Violence; 2 player kill or be killed game. YATC; A Tetris clone with artificial Intelligence. Genesis; create realistic 3-d fractal worlds.
FD62: Pom-Pom Gunner - An extremely smooth and well done World War II gunner simulation. Requires 1 meg of chip memory.
FD64: Games - Wizzy's Quest - a "great" 50 level game with great graphics, Cubus - a 3-dimensional Tetris type game (rotate and move in 3 dimensions). Husker Du - Colors and pattern rather than shape in this Tetris-esque game; 5 screens and 3 levels of difficulty. Req. Fat Agnus (1 Meg Chip RAM)
FD67: Arcade - Includes Llamatron a well-done 'Robotron' clone. Hate is a "terrific" commercial grade Zaxxon clone with multiple levels/worlds and smooth diagonal scrolling...a 10!
FD68: Potpourri - Eternal Rome is a strategic simulation of the Roman Empire including military, diplomatic, political, economic and social factors. Lord of Hosts is a board strategy game for 2 players. In Moonshine, you've got to get the hootch across the state line--a great rolling, scrolling driving game!
FD69: MindGames - Had enough of shoot-em up blasting games? Relax, and let these 21 games exercise your mind instead of your wrist.
FD70: SpaceGames - Contains AmiGoids, >finally!< an Asteroids game that takes advantage of the Amiga--totally configurable with great sound & graphics. In Cosmostruction the object of the game is for each Cosmostruction team to acquire the most points while constructing energy ducts between the space stations and planetoids.
FD71A&B: Star Trek: TNG Trivia Challenge - So you think you know The Next Generation, huh? Complete with fantastic sampled sounds and digitized images, this game even looks and sounds like a genuine Star Trek terminal! Requires 2 floppy drives or hard drive. Two disk set, counts as two.
FD72ABC: Sword of the Warlock - This is a demo version of a great public domain graphic dungeon adventure game. The adventure spans three diskettes and allows two players to go adventuring. The game has a 'Bards Tale' feel to it. Three disk set, counts as 2. Requires 1 meg and 2 floppy drives or HD.
FD73: Arcade Series - Intruder Alert! is a MULTI-level "Berserk" clone. Features smooth gameplay, great graphics & digitized sounds.

DD63: IBM - Not one, but *TWO* IBM emulators that will allow the running of MS-DOS software with Amiga programs!!! Comes complete with programs to turn your Amiga floppy drives into 720K IBM compatible drives. Also, check out our PC-Task emulator on our DevWare Video page!

FD74: Arcade Series - RingWar is an "Outer Limits" clone with vectorized graphics. MotherLode is a "Lode Runner" clone with 50 levels! In BlitzTanks, they're coming at you from all directions!! Call in air strikes and use your heavy artillery to survive!
FD75: Arcade Series - Descender is a clone of the classic arcade game "Tempest"; complete with vectorized graphics. Tanx is the classic battle of trajectories and inertia between two tanks--incredibly well done! Search is a maze game unlike any other--included is a level editor too. (Tanx req. 1 meg chip memory)
FD77: Arcade Series - Galaga'92 is a clone of the arcade game of the same name with several gameplay enhancements--with smooooth, sharp graphics it's better than the original! Pharaohs Curse is a clone of the original C64 classic. Diplomacy is a beautifully computerized version of the Avalon Hill board game--conquer or be conquered! Galaga requires 1meg chip memory.
FD78: Potpourri - Lothian is a great Ultima-type adventure game with great graphics. Rocky is a Boulderdash-type clone.
FD79: Addams Family Quiz - They're delightfully creepy and spooky and now they're in your Amiga! Classic digitized graphics and sound samples make this a real crowd-pleaser. Wait till you "talk with Cousin Itt!"
FD80: Technoban - If you like logic puzzles, this disk is for you! Create your own puzzles with the built-in editor or play the many pre-made ones. Requires Fat Agnus (1 MB chip memory).

FD81: SuperGames - Some of the best games--Donkey Kong is better than the original with an extra level! Frantic Freddie and Trailblazer are both fast-paced arcade games. Mad Bomber is the classic game of "Kaboom" redone with an Amiga flare. ALL of these games are excellent! Req. 1MB Chip memory.

FD82: Intrepid - In the Arctic ice, you control a tank on a mission to rescue hostages in this superbly crafted Amiga original.
FD83: Arcade Series: Contains Croaker and Squamble, two great clones of the arcade games "Frogger" and "Scramble."
FD84: Games! Deluxe PacMan is better than the original--20+ mazes, special "power-ups" with outstanding graphics. ThinkAmania is the classic game of concentration--with beautifully drawn HiRes images.
FD86: UChess - The strongest playing Chess program available for the Amiga period. Requires 68030+, Workbench 2+, 4MB RAM. Supports AGA graphics.
FD87: OXYD- A commercial quality game--similar to Marble Madness in many ways, but allows to computers to link & play together...see how many of the 200 landscapes you can complete without having to get the hint book!
FD88: AmyBoulderdash - a clone of the original classic; extremely well done with level editor, 2 complete sets of levels. Req. WB 2+
FD89: Kastle Kumquat - a thoroughly entertaining and challenging maze/adventure game. Great soundtrack and graphics. Req's 1MB Chip RAM (for PAL mode).
FD90: Conquest & Dominion - Conquer the known world and maintain dominion over it--a microcosm of economic survival.
FD91: Popeye - A clone of the original C-64 classic--Amiga style with enhanced graphics. Requires 1MB chip RAM.
FD92: Blast'em - contains Scorched Tanks--a tank battle with futuristic weapons/defenses and great graphics. Galactoid is a Galaxian/Space Invaders game completely Amiga-tized.
FD93: MegaBall AGA - This is the one you've been waiting for! Updated to knock your socks off! THE best p/d game for the Amiga. Req.'s WB2+ & !MB RAM. Show off that AGA!
FD94: Scorched Tanks - completely updated and compatible with AGA/3.0! 60 different ways to blow each other away! An outstanding game of, angles, trajectories & unique arsenals!

WORKBENCH DISKS

WB4:Telecommunication - several excellent PD communication programs designed to get you on line quickly and easily. Access (1.42) an ANSI term program. Comm (1.34), one of the best, Jrcomm and Handshake a full featured VT. See also WB102, WB115 and WB136.
WB5: Fonts #1- Several fonts (35) for the Amiga, also included are five PageStream fonts,and ShowFont - a font display program.
WB7: Clip Art - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US & State maps, and more.
WB9: Icons - Truly a multitude of various types and kinds. Also includes IconMeister, IconLab, and others great utilities to help generate icons.
WB10: Virus Killers - The latest and best VirusX(4.01), Kv(2.1), and ZeroVirusIII v1.10
WB12: Disk Utilities - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk recovery, file recovery, archiving and organizing, and all sorts of file manipulation. Also includes SID, the best file and directory display program for the Amiga, greatly reduces the need for a CLI, a must have for WB 1.3!

WB13AB: Printer Drivers and Generator over 70 different drivers (including HP LaserJet 3 & 4!), also includes a printer-driver generator. 2 disk set. See also WB132,133

WB15: Business - Contains a spreadsheet, database, a project/time management program and financial analysis (stocks).
WB16: Business - Contains an inventory manager, a loan analysis program, a great calendar/scheduler, a rolodex program, and Pennywise, a good "Cash Book" accounting program for home or office.
WB18: Word/Text Processors - This disk contains the best editors. Includes TextPlus (v2.2e) a word processor, Dme(v1.35) a great programmers editor with strong macro features, TexED(v2.8) an enhanced Emacs editor, and a spell checker.

WB119ABCDE: Font Set This collection contains over 100 typefaces for use with Professional Page/PageSetter 3+ or PageStream 2.1+. These fonts will output to any laser printer or dot-matrix printer with no jaggies, thanks to outline fonts. Very pro-looking. *5 disk set, counts as 4.*

WB22: Fonts #3 - Several more great fonts. These, like the other font disks work great with Dpaint and WYSIWYG word processors.
WB25: Educational - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's database to generate detailed

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maps of any entered user global coordinates. Also Paradox, a great demonstration of Albert Einstein General Theory of Relativity.

WB26: Disk Utilities #2 - MrBackup, KwickBackup - two well done utilities to help with harddisk and floppy disk backups. FileMast, a binary file editor and label printer. Disk label printer, with very powerful features.

WB27: Nagel - 26 Patrick Nagel IFF pictures of beautiful women.

WB29: Graphics and Sound - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes MandelMountains, a realistic terrain generator. Fracgen, generated recursive fractals from user input. Mandelbrot and Tmandel, two fast mandelbrot generators...also Mostra, will display ALL IFF's. Sound, a great IFF sound player--will play anything. Try this, you'll love it!

WB33: Circuit Board Design - several terrific routines for the electronic enthusiast. Includes PCBtool, a circuit board design tool. LogicLab, circuit logic tester. Mcad (1.26), a new release of this PD CAD program--now comes with pre-drawn common circuit components for insertion into schematics.

WB35: 3D Graphics - Several 3D modeling/ray tracing programs. 3DFonts, 3DFontMaker, Make3DShape.

WB36: Graphics - Create stunning graphical images. Includes MPath, creates swirling galaxy images. Roses, produce wonderful variations of images that are symmetrically similar to a rose. RayShade, a very good raytracing program--create your own beautiful 3D graphics.

WB118: Amiga Beginner - *You asked for it!* A complete tutorial for the beginner on using the Amiga. Starts you off at the power-switch and takes you through to the CLI/Shell and all points in between. *Bonus!* Also included are 16-color icons to replace *every* icon in your 2.0+ Workbench.

WB37: Educational - Games and puzzles that cover math, geography, spelling, and books. Ages 6 - 15

WB40: Music - "CD on a disk", 90 minutes of modern music on this well presented collection. Req. 2 Drives or HD.

WB41: Music - MED (3.20), an incredibly well done, full featured music editor. Create your own stunning music directly on your the Amiga. Similar to SoundTracker but better. PD software at its finest.

WB43: Business - This disk contains AnalytiCalc, probably the best PD spread- sheet program for the Amiga--a full featured spreadsheet with many features expected in a commercial package. 1.2 MB required!

WB46: Clip Art - HiRes IFF clip art with the following motifs - embellishments (borders, doodads), people, and transportation.

WB48: Clip Art - HiRes IFF clip art with the following motifs - Holidays, music, medical, and miscellaneous.

WB49ABC: Animation Sampler - On this three disk sampler set (counts as two disks) are some of the best animations that have been created over the last three years. Several examples of "Movie" type animations some with spectacular raytraced reality. Also several European style or "Demo" animation with incredible graphics and sound. These truly show off the creative edge of an Amiga!

WB50: Animation - Seven of the best European style animations or "Demos", including - scientific 451, subway (a U.S. entrant, also our favorite), sunride, thrstdemo, tnight, waves, and woow.

WB51: Animation- On this disk are two excellent movie style animations including ShipRotation - a futuristic space ship orbiting a surrealistic world (great!), and RV-3, a DpaintIII anim of a rather wacked out airplane.

WB53: Graphics- The disk contains C-light, the easiest to use raytracing we have seen to date. This one started out life as a full featured commercial product similar to Sculpt3D. Raytracing programs can generate stunning, realistically shaded objects. Also sMovie, a full featured video text titler similar to ProVideo and Broadcast Titler. Great video scrolling, wipes, special effects, & more.

WB54: Printing - This disk contains several routines to help with the chore of printing. Includes Gothic - Finally a Banner printer for the PD! PrintStudio -a well implemented all-purpose printer utility with a very comfortable graphic interface and many advanced features. Lila, with ease print ASCII files to a PostScript printer, and many more.

WB55: Application - XCopyIII - a full featured disk copier, make backups of copy protected disks. RoadRoute - find the quickest route from one city to another--highway description included. Diary, a diary program like "Doogie Houser M.D". Magman, a database tailored to maintain records on articles and publications.

WB59: Business - contains a great very full featured stock market technical analysis and tracking program--also an appointment calendar, and more.

WB61: Intermediate Utilities - Includes programs to help to drastically decrease flicker on your interlaced workbench screen--Antiflick, an Atari-ST emulator, an EProm programmer, turn your Amiga into an eight channel digital data analyzer or oscilloscope, and more.

WB62: MIDI Utilities - Several useful midi utilities including, programs to transfer to and from several music programs to midi, a MIDI sysex handler, a MIDI recorder with timebase, display MIDI info and file sequence player.

WB63: Disk Utilities #3 - Several highly recommended programs to aid in removing duplicate files from your hard drive, performing file backups, Binary editing, fast formatting, file recovery, disk track recovery, and forced disk validation of corrupt disks.

WB66: Icons #2 - Lots of neat icons. Also, several wonderful programs that to let you create your own icons, modify and manipulate icons and info structures.

WB68: Music Utilities - several good utilities for the Amiga music enthusiast. Includes Noisetracker, a great music creation program. Sonix2MOD, converts sonix to .MOD files which then can be used by Noisetracker, Soundtracker, or MED. SpeakerSim, a speaker design tool demo. Wondersound is an additive harmonic design tool.

WB69: Music - This disk has over 90 minutes of classical and modern music for you Amiga.

WB70: Desk Top Pub - Atcp, transfer Macintosh screen fonts, Mac or IBM format .AFM metric files, to Amiga screen fonts and PPage .metric files. With this program open the door to the libraries of Adobe and PostScript type! Calendar, month templates in PageStream format. Post, a full featured Postscript Interpreter with file display and print utility.

WB72: Directory Utilities - The programs on this disk are very powerful and come highly recommended. They are designed to make CLI and shell tasks virtually obsolete. These programs make the Amiga much easier to learn and use. From the Workbench environment, do file and directory manipulation include coping, deleting, moving, display text, edit text, view images, playing sounds, create directories, find files, group unarchiving--with many user definable functions and options, and much much more.

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WB74: System Utilities - MachIII, our favorite mouse, hotkey, screen blanker, autoCLI and autopoint all in one program. Iconize, a 16 color icon editor. NoClick, stop drive clicking. ReMapIcon, covert 1.3 icons to 2.0, and more.

WB75: Music - Over 100 instruments files (.inst) and sample sound files (.ss) for your music programs.

WB76: Applications - Contains Stichery - an often requested knitting design program. Lotto, a rather complete lottery tracking and prediction utility. SSS, this screen capture program can grab almost any screen including games. Today, a personal calender. Tarot, fortune teller and a grammar checker.

WB79: Home & Business Accounting - Includes Checkbook Acct (1.0). LCDCalc, this well done calculator has a very large display and operates from the keyboard or mouse. Mileage Master, monitor your automobile mileage with this mileage log. Grammar, a grammar checker and Worldtime, find out what time it is in up to 50 global cities.

WB80: Graphics - Raytracing programs generate absolutely stunning realistic looking planes, rockets, buildings..., and surreal images often consisting of highly polished spheres and objects. 3-D Master is the most powerful EASY-TO-USE of it's kind that we have seen to date. This is easily better, and more full featured, than similar commercial programs costing in the hundreds of dollars.

WB81: Great Applications - DataEasy a very easy to use, database program. Don't let the easy of use fool you, this is a very full featured database program including full printer control for address labels and mail merge applications. Also includes TypeTut, a good typing tutor. RLC, a full featured label printer. Banner, a multi-font banner maker and Budget, a home accounting in a program.

WB82: Animations - Four full-length, great movie style animations. Including, Coyote, JugglerII, GhostPool, and Mechanix. 2 disk set, counts as 1! Coyote req. 1.5 MB.

WB83: Computer Art - this disk has some of the best Amiga generated computer art that we have collected in the past 5 years.

WB84: General Enjoyment - A fun filled disk that contains, I-Ching the ancient chinese art of fortune telling. FastLife, an extremely fast life implementation and several "Schwabie" type hacks that are loads of fun to watch. A very delightful disk, recommended.

WB88ABC: The Complete Bible - A 3 disk set (counts as three), with the entire text New Testament and Torah (Old Testament). 1MB.

WB89: Education - Fish, not your everyday electric eel, but a fun to experiment with simulated fish aquarium. Also contains a well done math quizzer, history, religion, geography and more.

WB91: AV Educational - Flags of Europe, beautifully presents all of the flags of Europe along with maps and geographic statistics of the Countries. Requires AmigaVision.

WB93: Workbench 1.3 Extras #2 - This disk contains the utilities that Commodore should have shipped with the Amiga; VirusX4.01, Snap, FixDisk (recover corrupt/deleted files), Disk Optimizer (floppy & hard), MachIII (screen blanker, hotkey, mouse accel., macro, clock utility), GOMF (a guru-buster) and PrintStudio.

WB95: Checkbook Accountant 2.1- This program is definitely commercial grade; balance your checkbook in two minutes!!! Full budgeting, transaction recording and report generation.

WB96: Dupers - Contains XcopyIII & Nib which will backup copy-protected programs. FreeCopy removes copy protection from several programs, and SuperDuper will crank-out fast AmigaDOS copies.

WB98: Business - Includes BBaseII a nice, powerful database; BizCalc--a personal or mortgage loan calculator with amortization capabilities, Loop--a flowchart maker, Formmaker - design pro-looking forms on your Epson LQ-2500 compatible printer.

WB99: Lifestyles - Includes AGene--family tree program that tracks up to 600 people/marriages/etc, Landscape is a backyard CAD program to create gardens/landscapes, Loom simulates an 8 harness loom; experiment with design in an instant feedback environment.

WB101: Chemesthetics - is a program that displays molecules as a calotte model. This kind of display contains a certain esthetic attitude, even extremely poisonous molecules like nicotine or dioxine look quite nice.

WB102: Communications - Contains the tour-de-force programs NComm 1.921 and VT100-29B. Automatic Zmodem protocols, XPR protocol support, full VT100 emulation. NComm's script language is so powerful it comes with a script file that creates a full-featured BBS system. See also WB115.

WB103: Music - Contains 12 "great" Soundtracker/MED music MODules--complete with programmable/shuffle player...8 bit audio never sounded so hot! 2 disk set counts as 2.

WB104: GrabBag - Q&A Trivia (requires AmigaVision) is a trivia game for 1/2 players...add your own questions to customize the difficulty level! Sysinfo is great for telling you how fast/slow your computer is, what boards are installed, chipsets, etc. AmiGazer will plot stars in the heaven from any position on earth complete with magnitudes and constellation identification.

WB107AB: DrawMap - This program generates representations such as hemispherical views, and orbital views of the Earth's surface, complete with national boundaries. Screens can be printed or saved to disk as standard IFF files. Full user-configurable online help facility. 68020+ version included. Req. 1.2MB

WB109: VerseWise - Display, search and print The New Testament to text files to your printer.

WB112: Productivity/Business - Stock Analysis allows automated downloading of stock data with full analysis capabilities (requires modem). SubStore will allow you to log magazines and articles with full search/scan/print capabilities.

WB113: SID II - Why pay 40 bucks for a directory utility, when this one will do it all plus much more! A truly professional-caliber program. SID 1 was our best. Now, completely rewritten, SID 2 sets the standards for all others to follow.

WB114: Fonts #4 - Contains 36 bitmap fonts.

WB116: Databases - This is what you've been looking for! Contains 5 uniquely specialized database programs (some demos) for tracking: Videotapes, CD's, Magazine Articles, Comic Books and Trading Cards!

WB117: Religion - Contains Scripture_Mem (aids in memorizing verses and passages) and in Pauls Journey, you are Paul of Tarsus exploring the Mediterranean and preaching just as paul did. Req. 1 MB RAM.

WB120: Grinder - a complete graphics conversion package that supports GIF's, JPeg, Atari ST(Neochrome & Degas), PCX, Targa, TIFF, Ham-E and IFF format pictures.

WB121: ProPage 3 Enhancer - This disk contains over 40 "Genies" for use with ProPage 3.0, including useful ones like Make Pie Chart and Resize Text to Fit Box to name a few. Also includes structured & bitmap clipart for unique borders...a must have for all PPage 3 users.

WB122: System Optimizer - KCommodity gives you memory meters, mouse/keyboard enhancements, online timers plus many others...too numerous to list here. REorg will optimize hard and floppy-disks for a big speed increase. HDMem will allow up to 2 megs of hard-drive space for virtual memory!!! (Req. 68020+ w/MMU). All require WB2.0+.

WB123AB: Flags of the World - same as WB124, but for 1.3. Req. 1MB RAM.

WB124: Flags of the World - Two modes: click and learn or a game to test your knowledge. Great graphics--fantastic learning tool. Has current Russia & Yugoslavia republics. Req. WB 2.0+ and 1 MB RAM.

WB126: EdPlayer - music MOD player that looks, acts and plays like your CD player...AmigaWorld's #1 MOD utility. Plus MOD songs.

WB127: Blankers - Contains over 20 screen blankers. Most run on Workbench 1.3 and up...a few require 2.0+.

WB128: ColorFonts - Contains 12 color bitmap fonts for use with DPaint or other software that supports ColorFonts. Perfect for titling.

WB129: Super Virus Killer - From Safe Hex Int'l, who catalogs and kills Amiga Viruses worldwide--a complete virus protection system. Req. WB2+

WB130: ToolManager 2 - The ultimate tool manager for your Workbench. Add animated icons, sound effects and 'docks' of programs to your WB...very useful! Req. 2.0+ and hard-drive.

WB131: Magic Workbench - Make your 2.04+ Workbench sizzle with these 8-color dithered icons. Easy auto-installs in minutes. Req's WB2.04+ and hard drive.

WB132: Canon Studio - Special printer Preferences editor and drivers for BJC 800&880, LBP, A1, A2, BJC 800, BJ 5, 10, 20, 200, 230, 300, 130.

WB133: Panasonic Studio - Special printer Preferences editor and driver system for all Panasonic 9 & 24-pin printers.

WB134: 3.0/AGA Blanker - BlitzBlanker for WB 3.0+ 14 different blankers to really show off your AGA machine!

WB135: 3.0 Extras #1: 13+utilities for WB 3.0, several must-haves for getting the most out of your new graphics modes!

WB136: Terminus - WB2.0+ Modem/Terminal program. Full featured: scripts/screenmodes/overscan + all popular transfer protocols.

WB137: The ARexx Guide - Full AmigaGuide (included) document to teach you ARexx!!! Tip-filled with easy cross-referencing!

WB138: 3.0 Extras #2 - Another disk chocked full of utilities to unleash the power of Workbench 3.0 and AGA!!

WB139: MIDI Performance Manager - A utility to manage MIDI synthesizers and other MIDI equipment. Requires WB 2+.

WB140: Mr. Backup - A powerful hard-drive backup utility with full tape-drive support. Formally commercial! Req. WB2+

WB142: JCGraph A beautiful graphic package...pie charts, 3D charts of all types...exports EPS, IFF & Draw2000 formats!

WB143: ViewTek THE definitive display utility. Versions included for Amiga, DCTV, EGS, FC24, Picasso, OpalVision, Retina, IV24. Also includes new MAKEANIM7 utility.

VIDEO DISKS/

VO1: Graphics - Includes Freepaint, a Deluxe-Paint workalike. AGraph creates colorful pie, bar and line graphs. PicBase shows reduced versions of all your IFF pictures and tracks which disk or where in your system that picture is.

VO2: Stillstore - Used to create the "over the shoulder" graphic inserts, ala the 11:00 news.

VO3: Image Utils - JPEG converts between JPEG and 24-bit IFF. ImageLab performs many effects from simple averaging to fast fourier transforms. VideoToolsOnTap does fades, colorbar & greybar generation and other useful video functions. TitleGen will do crawling credits/titles.

VO5: Modelling - Vertex allows you to create 3D objects without using the abstract X, Y and Z views. Vertex can read Sculpt, Turbo Silver, Imagine, LightWave, GEO and WaveFront formats. MagicTween will metamorphasize any two pictures by automatically animating the "in-between" frames.

VO6: Modelling Objects - Contains 20 vector objects in Imagine format. These are perfect for use with Imagine or with our very own VO5 diskette. Includes Amiga 3000, space station and many more.

VO7: StarTrek Objects - Contains the USS Reliant NCC-1701D (Star Trek: TNG) a Ferengi Marauder ship. As an added bonus, contains a fully detailed Porsche 911 and Apache Attack Helicopter, all in Imagine format.

VO8: CompuGraphic Fonts - Contains 2 clipart-style fonts and 4 actual typefaces for use with WB2.04 and its Fountain utility. Great for desktop publishing and/or video projects.

VO9: 24-Bit - Contains Rend24 which allows you to proof Toaster-generated 24-bit animations. Also contains utils to convert IFF's to IBM VGA/Windows readable format. Also includes ViewTek - the latest ANIM player with support for ANIM 5/7/8 formats.

DEV DISKS/

DD45: ARexx Programs - This disk contains several useful ARexx programs and examples. PopCLI4 the latest of a must-have utility.

DD47: Pascal - This disk contains everything needed to program in Pascal. Includes A68k, 68000 assembler. Blink, linking software and PCQ (1.0), a modest Pascal sub-set compiler.

DD49: C Compiler - contains zc(1.01) fully K&R, zcc(1.0) front end, A68k(1.2) assembler, Blink linker.

DD50: ARexx #2 - a must have set of tutorials on ARexx and several useful examples and utilities for ARexx development.

DD51: Circuit Analysis - Aspice (2.3), a full featured program for electric circuit analysis.

DD52: Scientific - Includes Elements, an incredibly well done periodic table program with source. Scientific plotting, over 600k of Lattice C source routines that can be included in your own programs.

DD54: Compression - This disk is loaded with ALL of the best file compression programs and aids for the Amiga. Many of the programs can be used by the new user. Includes Arc, Lharc, Lhwarp, DMS, Pkax, PowerPacker a must have by all, Zip, Warp, and Zoo. Also IFFcrunch, an excellent compression for IFF files.

DD55: ARP - On this disk you will find the complete Arp3.0 release including the full user docs, the full Developers guide, and Conman (1.4). ARP is the official AmigaDOS Resource Project (ARP) release 1.3. ARP makes many improvements to AmigaDOS and makes your system easier to use from the CLI.

DD57: Advanced Utilities - Msh--like Cross-dos--copies files to and from MS-DOS. Pal-NTSC, convert any PAL system to NTSC and vice versa (if you have >512K chip memory). Also several utilities that improve your startup-sequence.

DD63: Tests - Contains all of the classic speed tests and system checks we could find. Includes CPU Speed, Sieve, Salvage. STU, a full featured system diagnostic tool. Memory integrity test, Disk integrity test, and more.

DD71AB: C Compiler -Contains D.I.C.E., Matthew Dillon's full featured, powerful C compiler. Counts as 2 disks. Also see DD79.

DD79ABCD: Amiga C Tutorial - This is the most comprehensive C language, Amiga-oriented set of tutorials available. Includes full working examples, source code and lessons. An invaluable tutor. 4 disk set, counts as 3.

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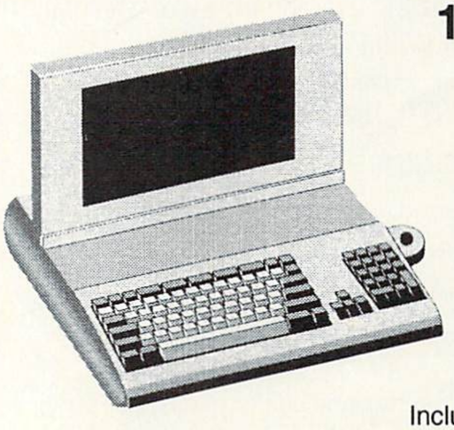
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THE LAST WORD

Kudos, complaints, comments, concerns, and contributions from our readers.

Come, Get Together

Now that we have this time of suspended animation, there is work to be done—work that *AmigaWorld* is in an optimal position to help organize. Someone needs to get the various interests together to help forge the future of the Amiga. I am convinced that no one is going to singlehandedly "save" our machine. The Amiga's salvation will come from the work of a group of intensely interested people who will start by coming up with a vision of where the Amiga needs to go from here—in marketing, product development, interaction with wholesalers and dealers and perhaps most of all with the hundreds of thousands of Amiga owners.

Here are two of my own ideas: First, a most significant event has occurred and is waiting to be snatched like a ripe plum—the development of the PowerPC chip. After all, if this chip can switch between the IBM PC and Apple operating systems, it's got to be able to be adapted for the Amiga. Second, surely someone can finally come out with an Amiga-compatible laptop. I gave up some time ago and bought a 386, and I can now state from personal experience that trying to read an MS-DOS manual is like tackling a poor translation of original Sanskrit.

Gregory L. Pittman, MD
Louisville, Kentucky

Market It Well!

Some marketing advice for Amiga-USA, whoever you are:

1. Immediately announce through ads in appropriate magazines, press releases, and so on, that the Amiga is *not* dead, but is back and healthy.

2. Play up the Amiga name, not Commodore.

3. Use Commodore's erstwhile marketing as a *reverse* role model for future advertising. (The verbose, archaic-looking ads in Amiga magazines were a waste of money and amounted to "preaching to the choir." Win some much-needed friends at multiplatform magazines by spending ad dollars with *DV Magazine*, *THE Journal*, *New Media*, *Computer Pictures*, and others—and don't forget the pro and consumer video magazines.

4. Use NewTek as a positive role model for advertising. Highly visible, slick ads in video magazines made the Video Toaster a household word and a respected item in video studios everywhere almost overnight.

> *The Amiga's salvation will come from the work of a group of intensely interested people who will start by coming up with a vision of where the Amiga needs to go from here.*

5. Take advantage of Hollywood's use of the Toaster as a cost-effective tool of preference to market the Amiga. Spotlight those little-known but seen-all-over-the-place uses of the Amiga, such as ballparks, Vegas light displays, TV series, InfoChannels, and so on.

6. Keep the low-end product low-priced. There should always be a stripped-down, bare-bones version for entry-level users, designed to be upgradable so you can keep selling them add-ons as they come to afford them.

7. Target the Amiga's strongest higher-end product to its strongest thicker-wallet users—the corporate, educational, cable, broadcast, and serious, free-lance video-production market.

8. *AmigaWorld* could help by soliciting and printing Amiga-user success stories to give the faithful some ammunition with which to convince their bosses or other potential purchasers not to squander their money chasing ever-changing mainstream "catch-up" technology.

Ken Sauer
Greeley, Colorado

Phoenix, Arise!

As I watch the Commodore liquidation process, I praise *AmigaWorld* for doing whatever is necessary to stay in the black (e.g., cutting back the number of pages or whatever) and providing a positive forum for the Amiga community. Whoever turns out to be at the helm, let's support them directly by inputting what we want to see in the next generation of machines. For myself, I know I'd like to see the fastest, most affordable RISC processor, capable of sustained 100–300 MIPs, full 32-bit color (8-bit Alpha), 16-bit stereo sound, a stable power supply, full 1.3-3.0 DOS emulation built in for software compatibility, and expandable chip RAM.

Gary Poole
Albuquerque, New Mexico

Be Thou Upbeat!

Commodore is dead, but the Amiga is alive! Waste not your thoughts on where support will come from. Care not that you are now an orphan computer user, but revel in the fact that your Amiga is still king of the video hill. Sweat it not that *AmigaWorld* shrinks in size, but renew your subscription as I recently did, because it is a good magazine and deserves your continued support in these difficult times.

Lastly, congratulate yourself. While others wallow in the lugubrious World-of-Windows, while others shell out thousands for video-processing power substandard to the Amiga, while only a few expensive Macs and IBMs start to catch up to your Amiga, you have it now. Use it. And fret no longer.

Steve Randall
Yuma, Arizona ■

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